

THE RELATIONSHIP BETWEEN ORGANIZATIONAL CLIMATE AND  
JOB SATISFACTION FOR DIRECTORS OF PHYSICAL PLANTS



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THE RELATIONSHIP BETWEEN ORGANIZATIONAL CLIMATE  
AND JOB SATISFACTION AS REPORTED BY  
DIRECTORS OF PHYSICAL PLANTS

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The purpose of this study was to investigate the relationship between measures of organizational climate and measures of job satisfaction as applied to directors of physical plants. Another purpose of this study was to determine if there were significant differences in the means for job satisfaction when controlling for gender, ethnicity, classification of the institution by size and type, number of years as director of physical plant at current institution, and type of institution.

A survey instrument was electronically sent to directors of physical plants who were members of the Association of Higher Education Facilities Officers as of July 2001. A total of 602 survey instruments were sent and 214 were returned, rendering a 37% response rate. The data were analyzed to determine the relationship between measures of organizational climate and job satisfaction and the differences in mean satisfaction ratings

when controlling for gender, ethnicity, classification of institution by size and type, number of years served at present institution as director of physical plant, and type of institution.

These analyses revealed that personal concerns, internal communication, organizational structure, and evaluation were the organizational climate factors related to job satisfaction for directors of physical plants. The eight job satisfaction variables investigated were: decision-making; autonomy, power and control; relationship with peers; relationship with subordinates; relationship with supervisor; salary; benefits; and professional effectiveness.



## CHAPTER 1 INTRODUCTION

In the early part of the twentieth century, researchers began to be interested in the topic of job satisfaction. Measuring performance on the job and increasing productivity were the primary focus (Wanous, 1976). When Elton Mayo and his associates agreed to observe experiments underway at the Western Electric Hawthorne plant near Chicago, job satisfaction became a popular topic for research because of the unanticipated findings of the study. The experiments were intended to determine the impact of illumination levels on worker productivity (Hanson, 1985). The results were a surprise because they indicated there was no significant relationship between levels of illumination and productivity of workers (Hersey & Blanchard, 1996). This unexpected outcome inclined the researchers to conclude that factors other than lighting levels must have impacted worker productivity. They identified other variables that impacted productivity more than aspects of the physical environment. Some of these were the effect of informal work groups, the attitude of workers about the company, and the need for rest periods. The researchers made two important conclusions. One was that human variability was a significant factor in determining worker productivity. The second one was that norms and expectations among workers had a greater impact on productivity than the work environment (Luenburg & Ornstein, 1991).

The surprising findings of the Hawthorne Studies spurred interest in the topic of employee motivation and job satisfaction. Subsequent studies about motivation and behavior revealed that worker perception and job satisfaction were factors related to job performance (McGregor, 1957; 1958; Spates, 1959; Tannebaum & Schmidt). As a consequence of these studies and others, the study of human relations became well established. Argyris (1957) observed that the early stages of studying human relations in the work place focused on why people behaved in certain ways and whether or not they were satisfied with their jobs. Another observation indicated that basically all human behavior in an organization was caused by any one or a combination of individual factors, small informal group factors, or formal organizational factors. One of the most important needs of workers was to enlarge those areas of their lives in which their own decisions determined the outcome of their efforts. Individual factors and group factors allowed for small adjustments by workers in various directions which allowed their decisions to determine job performance. The extent to which workers strived for self-actualization while behaving as agents of the organization affected job satisfaction. Argyris considered the relationship between job satisfaction and organizational climate and concluded that it was illogical, cruel, wasteful, and inefficient not to have a logical and rational design for an organizational structure.

Prior to the Mayo studies, those who studied human relations considered motivation at work to be a rather straightforward matter. People were either satisfied with their jobs or they were not. But the research of Argyris (1962) led to a more comprehensive way to consider job satisfaction. The study set out to measure how well

organizations worked with people rather than with things such as machinery and considered the human climate, which was comprised of variables such as mutual understanding, mutual trust, self-esteem, openness, and internal commitment. Argyris found many factors that influenced job satisfaction. Some of these were administrative leadership, effectiveness of groups and intergroup relationships, formal organizational structure, policies and practices, and people at all levels of the organization. Argyris concluded that for an organization to be effective it must have a system with inputs, outputs, and feedback. Interpersonal relationships and management understanding of the social needs of workers were found to impact factors such as conformity, organizational structure, and job satisfaction. Sayles and Strauss (1960) also investigated the need for informal work groups in a job setting and found that belonging to a clique provided employees with a sense of identification and belonging which contributed to job satisfaction. The importance of belonging to a group, which increased job satisfaction, was confirmed in studies by Vroom (1964) and March and Simon (1965).

McMurray (1953) also considered the focus of organizations on things rather than on people during a time when business and industry emphasized production, research, accounting, engineering, sales, and financial matters. As a consequence, management had less interest in humanitarian considerations such as the needs of workers on the job. McMurray observed that while this focus resulted in a vast contribution to the national economy and the tremendous improvement in the American standard of living, it came at a cost to human well-being on the job. McMurray concluded that many of the frictions and conflicts which plagued organizations could be attributed to the extent to which

management was insensitive to the needs, problems, and anxieties of the people with whom they worked and whom they supervised. Similarly, Golembiewski (1962) observed that in the early part of the twentieth century, the worker was a cog in the mechanical system of the organization and of interest only so far as he performed the expected functions. Whatever the individual brought to the workplace other than ability to do the job was largely irrelevant. Man was regarded as merely a performer of a particular simple function rather than as a complex entity. Golembiewski concluded that a lack of intimate friendly cooperation and understanding about the worth of people in the workplace was a detriment to job satisfaction. The extent to which organizations took the individual into account was studied by Argyris (1964). These findings indicated that organizations which considered the personal and social needs of people were more likely to have competent, committed, and fully functioning individuals. Fleishman, Harris, and Burt (1955) also studied the social setting in which people worked. They concluded that the value system of organizations which favored productivity and results rather than people adversely impacted job satisfaction. In contrast, Haire (1962) found that successful organizations created a structure and climate that focused on the strengths and interests of people which enhanced productivity and satisfaction on the job. Similarly, the research findings of Stogdill (1965) indicated that successful organizations considered worker morale and job satisfaction an output just as important as productivity.

Gordon and Howell (1959) studied the changing character of American business and observed that although originally confined to production management problems, the scientific approach to management had spread to include all aspects of management

activities. Instead of being taken as a given, the individual and his contribution became variables which organizations had become interested in. Gordon and Howell concluded that skill in human relations was an essential ingredient of effective management which enhanced both productivity and job satisfaction. Human relations skills as related to supervision were studied by Guest (1962). This research also documented the changing character of American organizations. The findings indicated that when managers had meetings with subordinates and asked for input, people felt more directly involved and experienced an increased level of satisfaction on the job. Argyris (1976) also considered the relationship between job satisfaction and opportunities for workers to provide input to supervisors and found that job satisfaction increased as opportunities to provide feedback increased.

Part of the changing character of American businesses was manifested in the climate of organizations. Owens (1995) as well as Steers and Porter (1975) studied climate and concluded that it could be considered the personality of the organization. Climate was revealed in the feelings of people and the comments they made about the place where they worked. The study of job satisfaction and organizational climate revealed that organizations gradually changed their perception and appreciation of workers. No longer were they considered mere cogs in the machinery of an organization. They were considered just as important as the mission of the organization (Stogdill, 1965). This perspective resulted in increased attention about how organizational climate and job satisfaction impacted institutional effectiveness. Concern about this and criticism about quality and accountability in education became an important matter on college

campuses (Report of the Wingspread Group on Higher Education, 1993). Smith (1993) considered these matters in the field of higher education and concluded that effective environments resulted from settings in which people were the primary focus. Barr (1988) assessed the organizational climate at Palomar Community College and concluded that a better understanding of organizational climate provided a basis for improving productivity, motivation, and worker satisfaction. Consequently, specific research within the context of higher education was timely, necessary, and appropriate.

### Statement of the Problem

The relationship between organizational climate and job satisfaction was well documented in industrial settings but less was understood about this relationship in educational settings. Directors of physical plants were responsible for the institution's facilities. This was important because facilities were a significant factor in recruiting students, faculty, and staff and because they contributed to the opportunity to learn on campus. The magnitude of the role that directors of physical plants had in the higher education enterprise was made clear by Ernest Boyer in a 1998 Carnegie Commission report: "You cannot be a core of excellence in higher education if you do not demonstrate a commitment to facilities. It is time to recognize that facilities provide the centerpiece around which all other functions in higher education take place" (Medlin, 2000, p. 24). Directors of physical plants had an important role in determining the quality of campus facilities and, consequently, the learning environment. Knowing more about the relationship between organizational climate and job satisfaction among these campus leaders could enhance the level of job satisfaction for directors of physical plants and positively impact their job performance.

### Purpose

The purpose of this study was to investigate the relationship between organizational climate and job satisfaction as applied to directors of physical plants. A second purpose was to determine if there were significant differences in means for job satisfaction within the context of organizational climate when controlling for gender, ethnicity, classification of the institution by size and type, and number of years experience as a director of physical plant at current institution. In particular, the research addressed the following questions:

1. How do directors of physical plants perceive organizational climate at their respective institutions, using a set of seven identified factors for climate?
2. Using the same seven climate factors as an index, how satisfied are directors of physical plants with the organizational climate at their respective institutions?
3. How important is each of eight identified job satisfaction variables to directors of physical plants in the performance of their specific job responsibilities?
4. For each of eight job satisfaction variables, is there a significant relationship between measures of job satisfaction and a set of seven measures of satisfaction with the organizational climate, as reported by directors of physical plants?
5. Is there a significant difference in the means of eight job satisfaction variables for directors of physical plants when compared by gender of the respondent, ethnic origin of the respondent, classification of the institution by size and type, and length of time served as a director of physical plant?

### Definition of Terms

For the purposes of this study, the following definitions were used:

Director of Physical Plant was the chief administrator responsible for maintaining the facilities and infrastructure of the institution, managing a charted course to improve and expand the facilities and infrastructure, and overseeing the financial affairs of the Physical Plant Department.

Job satisfaction referred to the extent to which people liked their jobs (Levin, 1995).

Organizational climate referred to the collective personality of the organization. It was an accumulation of feelings and perceptions that people have about the work environment at their place of employment (Evans, 1996).

### Limitations

The following limitations are related to this study:

1. The study was limited to directors of physical plant who were members of the Association of Higher Education Facilities Officers.
2. This study focused only on job satisfaction and organization culture as they pertain to Directors of Physical Plants.

### Significance of the Study

This study was significant for several reasons. First, significant changes were occurring regarding what people expected from their jobs and careers (Colson & Eckerd, 1991). Second, because of increasing diversity of workers it was important to understand more about how they felt about the organizational climate in their places of work and their level of job satisfaction (Moyers, 1991). Third, a positive organizational climate was critical to the success of an organization (Mirvis & Kanter, 1989). Four, the director of physical plant played a major role in providing quality facilities and services on college campuses (Cain, 2000; Adams, 2000).

Because organizational climate had such an important role in determining job satisfaction for employees, this research was conducted to increase the understanding of how climate impacted job satisfaction for directors of physical plants. Findings of this study advanced the body of knowledge by testing theoretical constructs about job satisfaction and organizational climate as applied to directors of physical plants, and by



determining whether or not the model used by Chappell (1995), Palmer (1995), Evans (1996), Paulson (1997), DeMichele (1998) and Zebetakis (1999) applied to this sector of higher education administration.

Dessoff (2001) and Medlin (1999) asserted that job satisfaction was enhanced for facilities administrators when caring relationships were established in work environments and when the organizational structure supported the mission and climate of the institution. This study confirmed that factors such as internal communication, organizational structure, political climate, professional development opportunities, promotional opportunities, and regard for personal concerns had a significant impact on the level of job satisfaction for directors of physical plants because they affected variables such as decision-making, relationship with peers, relationship with subordinates, relationship with supervisor, and professional effectiveness.

### Summary

Job satisfaction and organizational climate have been subjects of investigation since the Hawthorne Studies conducted by Elton Mayo and his associates about sixty years ago. The relationship between these two variables has been well documented in industrial settings but very little was understood about it in educational settings. This study tested the theories and constructs of job satisfaction and organizational climate for directors of physical plants at public and private colleges and universities of various sizes in the United States and Canada.

## CHAPTER 2 REVIEW OF RELATED LITERATURE

There was little interest in job satisfaction and organizational climate in the United States until the 1930s. Prior to this time, the focus in work environments was on job performance and maximizing worker output (Wanous, 1976). Considerable interest in these topics began when Elton Mayo and his associates experimented at the Western Electric Hawthorne plant near Chicago, Illinois. The Hawthorne study, as it came to be known, provided the impetus for others to become interested in the topics of employee motivation and job satisfaction. Furthermore, the Hawthorne studies revealed that employee perceptions, job satisfaction, and the social climate at work had a significant influence on productivity and morale (Hersey, Blanchard, & Johnson, 1996). Because of these revelations, job satisfaction and organizational climate became topics of considerable interest to researchers.

The purpose of this study was to investigate the relationship between organizational climate and job satisfaction of directors of physical plants. This was an important concern because job satisfaction impacted performance in the workplace since it was associated with attendance, productivity, longevity, and the general attitudes of employees (Benfari, 1995; Bennis, 1966; Gruneberg, 1979; Hopkins, 1983; Litwin & Stringer, 1968; Vroom, 1982). There were good reasons to be interested in job satisfaction, which was considered from the perspective of the employee or the

organization. From the employee perspective, a humanitarian view indicated that people deserved to be treated fairly and with respect (Brady, 1989; Maxwell, 1998; Ryan & Oestreich). From the vantage point of management, job satisfaction was considered a factor which led to behavior by employees which influenced organizational performance. This was a circular relationship. A favorable work environment tended to improve people which tended to improve the organization.

“This is the simplest way of saying that proper management of the work lives of human beings, of the way in which they earn their living, can improve them and improve the world and in this sense be a utopian or revolutionary technique” (Maslow, 1998, p. 5).

Consequently, job satisfaction was considered a reflection of how well an organization was functioning and to an extent, a reflection of good judgement on the part of management. Variances in productivity from one organizational unit to another were considered diagnostic of trouble spots. These factors were sufficient to justify concern about job satisfaction and, in combination, they explained the attention that has been paid to this important variable.

Directors of physical plants, like all employees, were affected by their level of job satisfaction. It affected the ability to manage others and was important because department heads were expected to serve as leaders and managers (Scott, 1980). Historically, effective leadership consisted of the downward exercise of power and authority in both the organizational mission and in the human dimension. Leaders offered jobs in exchange for a follower's support, cooperation, and compliance (Owens, 1995). In contrast, contemporary understanding and practice of leadership included concern for

followers and the extent to which they found satisfaction in their jobs (Stemmler, 2000). This approach to managing people reflected the notion presented by Jenkins (1999) as well as the opinions of Colson and Eckerd (1991). They stated that people are any organization's greatest asset so how they felt about their jobs was a significant factor in work environments. They considered employees the heart and soul of any enterprise, believed that each individual had value, and maintained that it was in an organization's best interest when people felt satisfied in their jobs. In a similar vein, Maslow (1998) stated: "Most of us would argue that we believe in the potential of people and that people are our most important organizational assets. If that is the case, why then do we frequently design organizations to satisfy our need for control and not to maximize the contributions of people?" (p. 11).

The concern for people in an organization was emphasized by Gilley and Maycunich (2000, p. 3). They stated:

"A virtual certainty in any organization's annual report is a statement of how important employees are to the ultimate success of the business. These organizations claim that their employees are their number one priority. They further assert that their efforts and resources are focused on employee satisfaction and development."

This emphasis on the worth and contribution of people was a fairly new phenomenon for leaders to consider because prior to the 1930s the focus in work environments was almost exclusively on productivity. Job satisfaction was not a factor (Wanous, 1976). Not much interest was shown in this area until Elton Mayo and his associates experimented at the Western Electric Hawthorne plant in Illinois. What became known as the Hawthorne study provided some knowledge of employee

motivation and satisfaction on the job. It revealed that job performance is related to job satisfaction and that the social environment in the workplace had an impact on morale and productivity. Other researchers such as Bess and Lodahl (1969) as well as Solmon and Tierney (1977) confirmed these observations and as a consequence, the human relations movement was started.

### Job Satisfaction

Some people like to go to work and consider it an integral part of their lives. Others do not want to work but do only because they must, for financial or other reasons. Because there were such divergent perspectives about work and because these perspectives had the potential to impact job performance, job satisfaction was a topic of great interest for people who worked in organizations and for those who studied them. In fact, it was the most frequently studied variable in organizational behavior research (Spector, 1997). Job satisfaction has been a topic of interest to researchers because of the perception that it was associated with absenteeism, worker productivity, employee turnover, and general mental health of employees (Chappell, 1995). The assessment of job satisfaction, its causes, consequences, and nature were important variables that drew the attention of researchers for almost seventy years. The earliest studies about it focused on productivity and turnover while later studies focused on need fulfillment. Researchers were concerned about whether or not the job met the employee's physical and psychological needs for things provided by work, such as salary (Porter, 1962; Wolf, 1970).

Job satisfaction was a subjective term, defined in a variety of ways, and all of them dealt with how one perceived his or her job experience (Evans, 1996). Job satisfaction was often used interchangeably with morale in the workplace according to Pincus (1986). Vroom (1982) described job satisfaction as “the affective orientation of individuals toward work roles they are presently occupying” (p. 99). Several other researchers also emphasized the affective nature of job satisfaction in the workplace (Beck, 1990; Kendall & Hulin, 1969; McCormick & Ilgen, 1980; Satterlee, 1988). Job satisfaction was described more simply by Locke (1976) as a positive relationship characterized by pleasurable or positive state of mind resulting from the job experience. Job satisfaction was a good feeling that one got by providing a service or effort which helped others become relieved of a burden, experience pleasure, or get what they wanted (Capodagli & Jackson, 1999). Similarly, Manz (1998) described job satisfaction as being derived from the opportunity to serve others and make a worthwhile contribution. Likewise, Harris (1996) maintained that the special element most critical to job satisfaction was contributing to worthwhile work and pointed out the connection between the importance of having a job that makes a difference and how well an organization functioned. Harris stated: “The highest level of service comes from the heart, so the company that reaches its people’s heart will provide the very best service” (p. 17). Another simple definition was offered by Spector (1997). Spector stated: “Job satisfaction is the degree to which people like their jobs” (p. vii). Levin (1995) stated that job satisfaction could be looked at from the perspective of the employee as well as from the perspective of the employer. Levin asserted that for employees, job satisfaction came

from having work that mattered and from a sense of job security. From the employer's view, he stated that job satisfaction came from involving employees in decisions that affected them and from providing people with the skills, motivation, and freedom to do their jobs better. Levin also stated that how people did their jobs and how they felt about them greatly affected their productivity and job satisfaction. Although definitions of job satisfaction varied, it was generally agreed that it could be regarded as an attitudinal variable, considered a global feeling about the job or as a related constellation of attitudes about various aspects or facets of the job. For the purpose of this study, job satisfaction was defined as a person's attitude toward his or her job.

Job satisfaction involved any aspect or part of a job. Aspects of a job frequently assessed included rewards such as salary compensation, fringe benefits, opportunities to get involved, the nature of the work, the organization itself, or people such as coworkers, supervisors, or subordinates (Kern, Riley, & Jones, 1987). Practices in human resources emphasized concern for employee welfare because every person was considered part of the organization team. Initiatives to resolve problems between management and labor and enhance teamwork were recognized as mutually beneficial. "What distinguishes these joint efforts from earlier programs is their commitment to employee involvement and quality of work life" (Ray, 1988, p. 3).

It was important to know how to enhance employee job satisfaction because of the potential impact on productivity. It was also important to understand the pitfalls which awaited an organization that did not react to resolve problems which caused employees to be dissatisfied on the job. Deal and Jenkins (1994) and Goffee and Jones (1998) reported

that dissatisfied employees impacted the organization by not following the rules, mindlessly conforming to policy, being frequently absent, committing sabotage, spreading ill will through gossiping, not contributing as much as they could, and subverting the organization by way of negative attitudes and comments. Satisfaction on the job combated these problems and contributed to productivity in the workplace (Clarke, 1992; Mobley, 1977). There were variables about a job which affected employee job satisfaction. If jobs were too narrow, fragmented, and restrictive, there was a conflict between the individual and the system (Bolman & Deal, 1991). Other dimensions that affected job satisfaction were autonomy and feedback. Therefore, it was important to increase job satisfaction and this took place in an organization which provided worthwhile work, opportunities for advancement, a positive environment, and a sense of mutual trust (Wolgemuth, 1999).

#### Job Satisfaction Theories

Factors impacting job satisfaction could be divided into two categories (Spector, 1997). He called them antecedents of job satisfaction. The first antecedent was the job environment comprised of factors external to the individual such as treatment by others in the workplace, rewards, on the job relationships, and the nature of the work. The second antecedent was comprised of individual factors that the person brought to the job. This included expectations, personality, the need for fulfillment, motivation, and experiences (Chappell, 1995). Both categories of factors worked together to determine how well the individual fit the job which influenced job satisfaction.



### Person-Environment Fit Theory

This theory stated that the fit between the person and the job was an important influence on job satisfaction (Kristof, 1996). An emphasis on improving the fit between the abilities of people and the demands of their jobs made an important contribution to both organizational functioning and individual adjustment. A good fit was described as a healthy match between the worker's needs and the demands of the job (Chappell, 1995). There was job satisfaction when characteristics of the job were matched to characteristics of the individual (Edwards, 1991). The importance of the relationship between the organization and the individual was first recognized by Argyris (1957). He pointed out that a conflict sometimes developed when there was a discrepancy between the needs of the organization and the needs of the individual. He also maintained that this incongruence resulted in frustration, failure, short term perspective on the part of the employee, and conflict within the organization. Argyris stated that employees who felt incongruence in their job found ways to resist or deal with frustrations within the organization.

1. They withdrew from the organization through absenteeism or by quitting.
2. They stayed on the job but developed a mental distance by becoming apathetic or passive.
3. They resisted the organization by restricting output or through deception and sabotage.
4. They tried to escape the present circumstance by climbing the hierarchy to a better job.
5. They tried to create groups such as unions that tried to deal with problems between the organization and the people in it.

6. They socialized their children to believe that work was unrewarding and offered little chance for advancement. (Bolman & Deal, 1991)

### Maslow's Hierarchy of Needs

Employees usually wanted to have some say over matters that affected them in the workplace and if they did not have this they were not likely to feel satisfied no matter what other issues they were permitted to address. Personal meaningfulness, therefore, was an important factor to consider regarding job satisfaction (Brady, 1989). Including this dimension was not as straightforward as it appeared on the surface because personal meaningfulness varied as people grew and changed in their lives and careers. At a particular time in one's life and career a person might have been preoccupied with salary and security needs. At a later point, the focus might have been on accomplishment and recognition. Maslow (1970) was the first to recognize that there was a hierarchy of needs in people. His premise was that as lower needs were met they became less of a concern and were replaced by higher level needs. He asserted that higher level needs could not be addressed until lower level needs had been met. He classified human motivation into five categories.

1. Physiological needs: need for food, clothing, and shelter;
2. Safety needs: the need to be free of fear of physical danger or deprivation;
3. Social needs: the need to belong to and be accepted within various groups;
4. Esteem needs: the need for self esteem and for esteem from others;
5. Self-Actualization needs: the need or desire to become all that one is capable of becoming. (Galpin, 1996)

### Alderfer's ERG Theory

Clayton Alderfer (1975) considered Maslow's hierarchy of needs and offered a revised and realigned version of it. He concluded that all people had three basic needs which were existence needs, relatedness needs, and growth needs. Alderfer's existence grouping corresponded to Maslow's basic psychological and safety needs. Relatedness corresponded to Maslow's social needs. Growth needs corresponded to Maslow's esteem and self-actualization (Hersey, Blanchard, & Johnson, 1996). Examples of Alderfer's existence needs were food, water, shelter, and pay. Examples of relatedness needs were relationships with friends, family, co-workers, and employers. Examples of growth needs were the need to feel good about oneself and the desire to accomplish more personally and in one's work.

### Herzberg's Motivation-Hygiene Theory

Frederick Herzberg extended Maslow's theory of motivation by applying it specifically to the workplace. He developed the concept of man as having two sets of needs, which were independently met. His studies of job attitudes revealed that esteem and self-actualization seemed to become more important as people developed. In interviews, he asked people from eleven industries in the Pittsburgh area what kinds of things about their jobs made them unhappy or dissatisfied and what kinds of things made them happy or satisfied. From this data he concluded that people had two different kinds of needs. He observed that when people felt dissatisfied with their jobs they were concerned about the work environment. In contrast, when they felt good about their jobs, the feeling was about the job itself. The first category of needs he called hygiene or

maintenance factors. They were hygiene factors because they impacted the worker's environment and served in preventing job dissatisfaction. They were maintenance factors because they were never fully met and must continue to be maintained. He called the second category of needs motivators because they were effective in motivating people to better performance.

Herzberg felt that matters such as company policies, quality of supervision, working conditions, interpersonal relationships, money, status and security should be considered hygiene or maintenance factors because they were related to the conditions under which a job was performed (Hersey, Blanchard, & Johnson, 1996). Herzberg referred to factors that involved feelings of achievement, professional growth, and recognition on the job as motivators. He used this term because these factors were capable of having a positive impact on job satisfaction which often resulted in an increase in individual performance on the job (Kerns, Riley, & Jones, 1987).

### Theory X and Theory Y

According to Douglas McGregor, the traditional organization had centralized decision making, a hierarchal pyramid, and was based on certain assumptions about human behavior and human motivation. He assembled these assumptions into two theories: Theory X and Theory Y. "Theory X assumed that most people preferred to be directed, were not interested in assuming responsibility, and wanted safety above all. Accompanying this philosophy was the belief that people were motivated by money, fringe benefits, and the threat of punishment" (Hersey, Blanchard, & Johnson, 1996

p. 37). Leaders who accepted these assumptions closely supervised their employees because they believed that external control was the best way to deal with unreliable or irresponsible people.

McGregor believed that Theory X assumptions about human nature were often inaccurate and felt that management styles based on them would fail to motivate people to work toward attainment of organizational goals. As a consequence, he concluded that management needed leadership styles based on a more accurate understanding of human nature and motivation. His Theory Y asserted that people are not, by nature, lazy and unreliable. This theory conceived of man as desiring to work and use his skills, to make decisions for himself, and operating heavily on internal controls (Kern, Riley, & Jones, 1987).

### Theory Z

William Ouchi expanded and modified McGregor's work. He believed that the ideal organization was egalitarian, fully engaged the participation of employees in day to day operations, and emphasized interpersonal relationships. Such an entity was characterized by employee cooperation with the objectives of the organization. Ouchi, mindful of McGregor's Theory Y, used the term Theory Z to describe a leadership philosophy that focused on the interdependence between people and organizations. The most important part of this relationship was the commitment in an organization's culture to its people. Theory Z suggested that humanized working conditions increased productivity and profits to the company and enhanced the self-esteem of the employees (Bolman & Deal, 1991).

### Expectancy Theory

Based on the earlier works of Lewin (1935), Victor Vroom created the Expectancy Theory (1964). The premise of this theory was that felt needs caused behavior and this motivated behavior in a work environment was increased if a person perceived a positive relationship between effort and performance. Vroom concluded that motivated behavior was increased if there was a positive relationship between good performance and rewards. As a consequence, he identified three relationships that enhanced motivated behavior. These were a positive relationship between effort and performance, a positive relationship between desired performance and rewards, and the achievement of valued outcomes or rewards (Hersey, Blanchard, & Johnson, 1996). This theory identified the link between effort and performance and the link between performance and valued outcomes. It pointed out that people exerted effort to accomplish a particular objective if there was a reasonable expectation that the effort expended would result in a desired performance or reward.

### Equity Theory

This theory, created by Adams (1965) contended that people wanted to receive equitable reward and compensation for their work. He asserted that if people felt they were treated equitably in the work environment they would be satisfied in their jobs. If they did not feel they were treated equitably in the work environment they were dissatisfied about their jobs. Evans (1996) concluded that individuals wanted to be treated equitably in the work place. If they were, they were satisfied with their jobs. If they were not, then dissatisfaction resulted.

When workers considered the effort they put forth on the job and the personal sacrifices they made to an organization, they expected certain outcomes such as an equitable salary, status within the organization, and recognition for their efforts. Beck (1990) stated that if the perception of workers was that a discrepancy existed between the effort put forth and the compensation received, they would be dissatisfied on the job. In contrast, he stated that if the perception of workers was that the compensation was equitable, there would be job satisfaction.

Another factor that impacted job satisfaction was the amount of involvement in decision making by employees (Witt & Nye, 1992). Their experiments involved employees from various organizations and they concluded that when workers were involved in decision making they were more likely to be satisfied on the job, exerted more effort, and made more sacrifices to be successful within the organization. The perception of being involved in decisions which affected them was an important part of job satisfaction according to Witt and Myers (1992).

#### Organizational Climate

Organizational climate was a useful tool for understanding the complexities of organizations. It was defined as an accumulation of tangible perceptions that individuals had about various aspects of the work environment (Evans, 1996). Extensive research about it attested to the importance of this variable regarding how organizations functioned. Researchers and authors repeatedly cited organizational culture as a fundamental factor which impacted organizational performance (Fullan, 1991; Fullan & Miles, 1992; Sagor, 1995; Sarason, 1996; Sergiovanni & Starratt, 1987). Kouzes and

Posner (1987) defined culture as a pattern of shared assumptions that a group learned as it solved problems. They considered it the correct way to think, perceive, and feel in relation to those problems. Bolman and Deal (1984, p. 4) offered a simple definition of organizational culture: "The way we do things around here." Peterson and Spencer (1990) defined organizational culture as a broad concept of organizationally related phenomena. They stated that it might be considered the organization value system. Likewise, Lenz (1999) stated that organizational culture was determined by the prominent values of leadership in an organization. It was revealed in the way people were treated, the ways things got done, and in a focus on customer service. Berry (1999) also included customer service in his definition of organizational culture. He defined it as a work environment which clearly demonstrated that each person had worth, each person made a worthwhile contribution, each person used their talents to the fullest, and each person served others. Band (1991) also referred to customer satisfaction in his description of organizational culture. He considered it a winning formula that everyone knew and embraced. It was comprised of the feeling of teamwork that pervaded an organization and the belief that service to customers was paramount for success. Forehand (1968) described it simply as an interaction between environmental and personal variables.

Organizational culture was the value system and personality of the organization. It was comprised of clearly defined characteristics such as the ethos of the place, the mission of the organization, its goals, the shape of the hierarchy, governance and policy matters, participant behaviors, and workplace dynamics (Peterson & Spencer, 1990). Similarly, Peterson and White (1992) defined culture as "the deeply embedded patterns of



organizational behavior and the shared values, assumptions, beliefs, or ideologies that members have about their organization and its work” (p. 181). Peters and O’Connor (1980) described organizational culture as the environment in which people worked. This environment was either positive or negative, supportive or not, depending on whether or not it provided people with what they needed to do their jobs. They identified eight factors which shaped the culture of the workplace: amount and quality of job-related information, availability of tools and equipment, availability of materials and supplies, amount of budgetary support, amount of help available from other people, time available for doing the job, and physical features of the work environment. A similar perspective was provided by Blanchard and Bowles (1993) in their succinct definition of organizational culture. They stated that it was a prevailing sentiment within an organization that was comprised of two focuses, the worth of employees and the worth of customers.

### Organizational Climate Theories

#### Total Quality Management

Total Quality Management (TQM) was a philosophy that emphasized quality measurement through statistical process control and group problem solving. It was based on the idea of continuous improvement and centered on top management support, employee involvement, process improvement, and recognition rewards. TQM was a useful tool for control and for maintaining quality standards. Many educational institutions became involved with Total Quality Management efforts and learned the importance of customers, whoever they may be (Wattenbarger, 1994). In these settings,

quality was defined as meeting or exceeding customer needs and expectations (McNealy, 1994). By understanding customers, institutions were better able to offer new and better services specifically designed to meet or exceed expectations. This was the first important aspect of TQM. The second important aspect of TQM was the focus on processes. By focusing efforts on providing services which customers really want, organizations reduced costs by eliminating those processes that did not contribute to the desired services. This increased efficiency was the third important output of the TQM process. A main use of Total Quality Management was an attempt to overcome insensitivity to customers. The challenge was to continually define and improve quality as perceived by the customer. Organizations that used TQM identified what service meant to customers. The identification of quality supported total quality management techniques such as statistical process control and statistical quality control (Barsky, 1995).

The origin of the TQM movement was in the corporate sector. The major premises of it, quality control, teamwork, empowerment, continuous improvement which worked well in Japan and the United States also proved useful in educational settings (Cain & Christensen, 2000). They stated that TQM involved an on going series of assessment activities undertaken over time. This assessment was a tool for continuous improvement whose power was cumulative because it resulted in more refined changes to improve customer satisfaction. Another benefit of continuous assessment for educational institutions was verified by van der Have (1997). He noted that self-assessment activities were critical to those who were responsible for maintaining institutions of higher learning because of the increased scrutiny of processes and outcomes. In light of shrinking or

stagnant allocations for education, the concepts of TQM gained favor at many institutions (Christenson, 1999). Total Quality Management was a concept that required continual administrative support, a strong commitment from employees, and frequent measurement of results. Institutions of higher learning which used TQM found that it increased efficiency, resulted in better customer satisfaction, and contributed to a positive image (Cain & Christensen; Christenson, 1999; Spence and Stuckman, 1994).

### The Organizational Climate Description Questionnaire

The Organizational Climate Description Questionnaire was developed by Andrew W. Halpin and Don B. Croft (1963). They conducted research in an elementary school setting and their findings began the discussion of organizational climate. In their research they wanted to investigate organizational climate. They did this by eliciting from teachers the factors that they thought were important when describing the climate of a school. Their findings allowed them to identify six types of organizational climate.

1. Open Climate. In this kind of climate, teachers worked well together, were proud to be part of the school, and exhibited high comradery. The teachers had a friendly relationship with each other and with the principal. The administrator was able to lead and control the teachers yet generally displayed behavior that encouraged leadership roles to develop within the faculty.
2. Autonomous Climate. In this environment the teachers had control, were self-governed, and were extended great latitude by the principal to make decisions. As a consequence, the faculty worked well together to solve problems and meet the goals of the school. Morale was generally high in an autonomous climate.
3. Controlled Climate. In this setting the principal allowed less flexibility and the achievement of tasks was the main focus. Nonetheless, morale was usually high as teachers concentrated on getting the job accomplished. They expected to be told what and when to do it since the principal allowed little flexibility in the way things were done. Focus by the principal and teachers was on getting the job done. Therefore, concern for the feelings of others was not part of a controlled climate.

4. Familiar Climate. This environment was friendly and the social needs of people were important considerations. Very little direction was provided by the principal and there was considerable concern about making everyone feel comfortable. Productivity was not emphasized and as a result people did not work at their full capacity.

5. Paternal Climate. Principals in this setting tried unsuccessfully to control the faculty and meet their social needs. This behavior was seen as insincere and did not motivate teachers.

6. Closed Climate. In this climate there was considerable apathy and teachers enjoyed neither high achievement nor social belonging. They did not work well together. The principal was ineffective and not concerned about the social needs or welfare of faculty and staff.

### The Organizational Climate Index

George C. Stern (1970) developed a way to measure organizational climate. His research was based on the work of Lewin (1935) who believed that by studying individuals and groups in their work settings, the effect of organizational climate could be determined. Stern maintained that efforts to measure organizational climate must consider the individual and the work environment. To develop the Organizational Climate Index (OCI) Stern also considered the work of Murray, Barrett, and Homburger (1938). Murray had developed the concept of need-press and its impact on human personality. He reasoned that personality was the product of interplay between individual needs and press, which was the cumulation of environmental pressures that led to changes in behavior. Stern felt that certain factors influenced the climate in institutions of higher education and developed a questionnaire, with Carl Steinhoff, to measure them. The College Characteristics Index (CCI) was first used in public schools and it probed the organizational press as experienced by persons in an organization (Lunenburg and

Ornstein, 1991). It has been used in a wide variety of educational settings because its strength was based on a strong theoretic concept of climate which has been beneficial to researchers (Evans, 1996). The original tool, the Organizational Climate Index (OCI) measured six factors about climate.

1. Intellectual Climate, an indicator of the extent to which the environment, staff, and faculty supported the scholarly interests of the institution.
2. Achievement standards, an indicator of the extent to which the environment in an organization emphasized high standards of personal achievement.
3. Personal dignity, an indicator of whether or not the work environment stressed a sense of fair play and openness, the integrity of individuals, and provided a supportive environment.
4. Organizational effectiveness, an indicator of the degree to which the work environment enhanced the ability of people to effectively perform their duties.
5. Orderliness, an indicator of the need to conform to a defined core of personal appearance and institutional image.
6. Impulse control, an indicator of the constraints and organizational control over people in the work environment.

Organizational climate could be measured by using the Organizational Climate Index (OCI). It measured need press and control press. Analyzed together they provided an indication of an organization's climate.

#### Organizational Climate and Job Satisfaction

According to McGregor (1960) leadership was a relationship of the characteristics of the organization and the characteristics of people. Characteristics of an organization such as its purpose, structure, the nature of tasks to be performed, opportunities for advancement, and the political nature of the job environment impacted

how people felt about their jobs. This occurred because people brought attitudes, needs, and aspirations to work environments and were impacted, either positively or negatively, by the organizational climate. McGregor (1960) stated that organizational climate needed to mesh, in subtle ways, with the goals, talents, and aspirations of people in order for there to be effective performance of leaders.

The quality of working life was investigated by Morf (1986). Work was found to be a social activity that affected the quality of life because of those things which people experienced while on the job. The extent to which work and the work environment affected people was pointed out by Gini (2000):

“In the long run work can prove a boon or a burden, creative or crippling, a means to personal happiness or a prescription for despair. But no matter where might wind up on this spectrum, where we work, how we work, what we do at work, and the general climate and culture of the workplace indelibly mark us for life.” (p. 2).

A high quality of work satisfaction was found in organizations which had a supportive job climate and recognized the value of human resources. Ford (1979) found this to be true in settings that involved industrial engineers because his research pointed out that characteristics of an organizational climate such as concern for the feelings of others impacted satisfaction on the job. Regarding employment in the public sector, Hopkins (1983) also found that a high regard for the feelings of others tended to increase satisfaction on the job. Glaser (1976) came to the same conclusion based on research at American Telephone and Telegraph Company and also asserted that internal communication within an organization impacted job satisfaction for workers. The quality of internal communication as well salary, benefits, and advancement opportunities were

components of organizational climate that Brief (1998) identified as having a direct impact on job satisfaction. Another organizational climate characteristic that impacted job satisfaction was individual development opportunities according to Barbash (1976). The quality of life at work was also investigated by Schlesinger (1982). This research found that it was important to provide a work environment that encouraged continuous learning, provided new opportunities, and demonstrated an active interest in the job satisfaction of employees.

Rice (1982) also investigated the relationship between job satisfaction and organizational climate and asserted that people were the heart of any enterprise because their ideas, attitudes, and efforts were key causes of success. Findings pointed out that for maximize performance, people needed to be satisfied at work. This was best accomplished by understanding their makeups, ideas, capabilities, feelings, attitudes, hopes, dreams, and goals and nurturing an organizational climate which supported them. Freeman and Rodgers (1999) studied workers in a variety of settings such as industry, chambers of commerce, and education and determined that people wanted an organization that was not political, encouraged open communication, and provided plenty of opportunities for advancement. Bisconti and Solmon (1977) interviewed hundreds of people in a wide range of work environments and investigated the relationship between organizational climate and job satisfaction. This research indicated that people tended to be more satisfied on the job in organizations which allowed a high degree of autonomy and nurtured relationships among peers, supervisors, and subordinates. Although it was not always clear what the most important needs for employees were, Hackman and Suttle

(1977) found that an organizational climate which edified people, honored their accomplishments, and kept their best interests in mind was likely to produce satisfied employees. Despite often diverse and competing needs of people in the workplace, these researchers found that successful organizations sought and developed ways to nurture a climate that enabled individuals to succeed. This resulted in mutual gain for individuals and the enterprise.

#### The Role and Impact of the Director of Physical Plant

The growth and expansion of higher education in the United States was one of the most durable and impressive success stories in the history of American domestic institutions. Colleges and universities had continued to support more students and employ more people than ever before. Many institutions enjoyed lofty reputations for educational excellence, support of technological advances, and community service. "The remarkable expansion and growth of higher education is evidence of the wide range of benefits that have popularly been considered to flow from higher education" (Kaiser, 1997, p. 17). At institutions of higher education, the director of physical plant was responsible for managing the facilities which made learning process possible. Without buildings and grounds and the infrastructure to support them, there could be no colleges or universities. In addition to managing and maintaining facilities, directors of physical plant were responsible for short and long range planning, fiscal management of the many funding sources which supported facilities, and organization of capital improvements. Other concerns which faced a director of physical plant included deferred maintenance since there were not adequate resources to do everything which needed to be done, preparation



to meet the demands for electronic delivery systems and information technology, the proliferation of distance education, space requirements on campus, adaptability of existing space for new teaching methods, changes in the traditional patterns of daytime classroom and laboratory use, impact on campus attendance as faculty and students increased the use of electronic technology in the learning process, and the affect of non-traditional students on the demand for on-campus residence and dining services.

There were administrative and supervisory components to the job as well. The director of physical plant was responsible for reporting the status of the enterprise to a higher authority, usually the vice president for administrative affairs. He or she was also responsible for providing vision for the organization, leadership for various department heads, and guidance to those who maintain the buildings and grounds (Kinnaman, 2000). Further, the director of physical plant had to be able to communicate well with various constituencies such as deans, students, faculty, and others who were interested in the appearance and condition of the campus. The director also had to be able to successfully vie for limited institutional resources. The director also played a major role in developing the organizational culture within physical plant and was responsible for employee development (Jenkins, 1998).

Campus facilities, managed by the director of physical plant, helped institutions of higher education sustain and advance their mission to provide learning experiences for the masses. Colleges and universities enriched the lives of students and employees, helped secure America's place in the competitive global economy, and created flourishing national, regional, and local economies (Kaiser & Kirkwood, 2000). Directors of physical

plant supported and helped with these accomplishments. As a consequence, these people played a major role on campus and were integral to the success of the higher education enterprise (Kaiser, 1997).

#### Other Factors That May Affect Job Satisfaction

Because so many other factors also might have impacted the relationship between job satisfaction and organizational climate for directors of physical plants, the literature was also reviewed to find pertinent information about gender and ethnicity, classification of the institution by size and type, years of experience as director of physical plant at a particular institution, and type of institution.

#### Gender and Ethnic Differences

Keller (1985) and Rebores (2001) studied the differences in leadership styles of men and women. Their research indicated that women tend toward holistic expressions of personality whereas men tend toward the perfection of individual abilities. Hersi (1993) found that perceptions about the communication climate and relationships with colleagues impacted job satisfaction for women in higher education positions. Relationships with peers and subordinates were found to impact job satisfaction for men. Cassidy and Warren (1991) found that job satisfaction for men and women was negatively impacted when they worked in environments that were dominated by the opposite sex. Hersey and Blanchard (1988) also documented the differences between the leadership styles of men and women and asserted that these differences help organizations be more diversified regarding management of people and were, therefore, more likely to help organizations be more effective.

Kekes (1993) and Moon (1993) found differences in the ways African, Asian, and European Americans interacted with one another and with others from different ethnic backgrounds. Moreover, they recorded significant differences in expectations on the job and the impact of the organizational climate when comparing these groups.

#### Classification by Size and Type of Institution

Fink (1999) found that the number of students enrolled at an institution impacted the job of the director of physical plant. Larger and more diverse institutions presented greater and different challenges than colleges with smaller enrollments. Likewise, Kaiser and Kirkwood (2000) found that the size of a college or university affected how matters such as the budgeting process, planning use of space, master planning, capital renewal, and facility audits were handled. Moreover, the research by Kaiser and Kirkwood (2000) found that public universities tended to use management reviews of efficiency to monitor performance while private universities often used a work order process to identify needs and realign reporting lines to increase worker efficiency. These very different approaches to process improvement impacted the job of the director of physical plant.

#### Number of Years as Director of Physical Plant at Present Institution

The number of years served at a college or university as director of physical plant was examined because longevity was found to have an impact on the ability to provide a vision for the institution (Stemmle, 2000). Kinnaman (2000) considered the length of time directors of physical plants served at an institution and identified four phases that these administrators went through. The entrepreneurial phase included adaptability, flexibility, risk taking, high motivation, and energy. The growth phase involved putting

into place systems, rules and procedures to help ensure continued efficiency and effectiveness. The late growth phase was marked by complacency, breakdown in communication, habit orientation, rejection of innovation, bureaucratic style, low risk taking, and low energy. The renewal phase was marked by revitalization, closeness to customers, risk taking, quality orientation, openness, flexibility, and an inclination to seek further training. Kinnaman (2000) found that these phases had an impact on the level of job satisfaction for directors of physical plants and affected their approach to leadership in their organizations.

### Summary

The purpose of this study was to investigate the relationship between organizational climate and measures of job satisfaction as applied to directors of physical plant. In this study, job satisfaction was considered to be a person's negative or positive feelings about his or her place of employment (Beck, 1990). The subject of job satisfaction became an interesting topic for research after the Hawthorne Studies conducted by Elton Mayo and his associates. An abundance of research has since been conducted to consider this phenomenon which verified its importance in the workplace. Interest in the relationship between job satisfaction and organizational climate remained high because pressures for institutional effectiveness kept increasing (Chappell, 1995). In this study, organizational climate referred to perceptions of people in the workplace regarding the work environment. Many researchers considered it to be the personality of the organization (Emery, 1999; Hatch, 1997; Hartman, 1988; Kotter & Heskett, 1992; Kunda, 1992). The important role of the director of physical plant in higher education has

been well documented (Davis, 1997; Kaiser, 1997; Medlin, 1999). Findings of this study have advanced the body of knowledge about the relationship between organizational climate and job satisfaction of directors of physical plant. This was important because of the impact leaders had on the organizations in which they worked. Chappell (1995, p. 65) stated: "How well the executive leadership is able to mold a positive organizational climate in the expanding global arena will have profound effects on the success and well-being of not only the employees but ultimately of entire organizations." The research of Sell and Shipley (1979, p. 57) pointed out the significance of a positive organizational climate and its importance for the success of individuals and the organization:

"An important reason for employing the concept of job satisfaction must ultimately be to make assessments about people and jobs so that some action or improvement can be made in the jobs themselves, so that they are more satisfying for the people doing them, or that other appropriate remedies are taken to ensure in some way a better fit between the individual and his job and organization."

### Chapter 3

#### DESIGN OF STUDY

The purpose of this study was to investigate the nature of the relationship between measures of organizational climate and measures of job satisfaction as applied to directors of physical plants. This study was also conducted to determine if there was a significant difference in means for eight job satisfaction variables when controlling for gender, ethnicity, classification of the institution by size and type, and number of years of experience as a director of physical plant. The research posed five questions:

1. How do directors of physical plants perceive organizational climate at their respective institutions using a set of seven identified factors for climate?
2. Using the same seven climate factors as an index, how satisfied are directors of physical plants with the organizational climate of their respective institutions?
3. How important is each of eight identified job satisfaction variables to physical plant directors in the performance of their specific job responsibilities?
4. For each of eight job satisfaction variables, is there a significant relationship between measures of job satisfaction and a set of seven measures of satisfaction with organizational climate, as reported by directors of physical plants?
5. Is there a significant difference in the means of eight job satisfaction variables for directors of physical plants when controlled by gender of the director, ethnic origin of the director, classification of the institution by size and type, and length of time served as a director of physical plant?

#### Methodology

To test the questions listed above, a survey instrument designed to address job satisfaction and organizational climate was used. It collected information about the

perceptions of directors of physical plants for seven factors related to organizational climate, levels of satisfaction with those factors, and the importance of eight specific aspects of job satisfaction related to fulfilling the responsibilities of their administrative jobs.

To test the first three questions, data were collected about perception of organizational climate, satisfaction with organizational climate, and importance of job satisfaction. This information was utilized to assemble a descriptive profile based on frequency distributions, correlation tables, mean distributions of means, standard deviations, and standard errors of means. Composites were developed to reveal how directors of physical plants perceived organizational climate in higher education institutions, how satisfied they were with climate, and how important each of the eight job satisfaction variables were in the performance of their jobs.

Step wise multiple regression was utilized to address question four. This analysis examined the relationship between job satisfaction and organizational climate and the importance of specific aspects of job satisfaction. It also was used to determine if relationships in measures of job satisfaction existed when controlling for gender of respondents, ethnicity of respondents, classification of institution by size and type, and length of time served as director of physical plant at the current institution.

According to Lehman (1988), multiple regression analysis may be used to establish the functional relationship between one dependent variable and a set of two or more independent variables. It may also be used to determine the proportion of variance in the dependent variable that is predictable from a set of independent variables. This

research used step wise multiple regression to analyze each of eight job satisfaction variables against seven organizational climate factors, to determine which organizational factors had the most significant relationship with specific job satisfaction variables for directors of physical plants.

To answer question five, one-way analysis of variance was used to determine if there were significant differences in means of the eight job satisfaction variables when compared by gender of respondent, ethnic origin of respondent, classification of the institution by number of students, classification of institution whether public or private, and length of time served as director of physical plant.

#### The Population

All of the directors physical plants who were members of the Association of Higher Education Facilities Officers were asked to participate in this study. This population consisted of 602 individuals according to the 2001 membership records.

#### Procedure for Data Collection

An electronic message asking directors of physical plant to take part in the study was sent to six hundred and two members of the Association of Higher Education Facilities Officers. The survey instrument was attached. Directors of physical plants were asked to respond by the date indicated on the survey instrument.

#### Instrumentation

This study used a near replica of the survey instrument originally utilized in a University of Florida dissertation that measured the same theoretical constructs on community college chief instructional officers (Chappell, 1995). Palmer (1995) also used



a revised version of Chappell's survey instrument to investigate the relationship between organizational climate and job satisfaction for directors of health occupations program directors. Evans (1996) used a revised version of Chappell's survey instrument to study the same relationship for community college presidents. Paulson (1997) did likewise to study teachers in a large suburban school district. Demichele (1998) revised the original survey instrument and studied the same relationship for collegiate campus recreation program directors. Zabetakis (1999) also used the original survey instrument to investigate the relationship between job satisfaction and organizational climate for community college chief business officers. In each of these studies, some statistically significant relationships were found between organizational climate and job satisfaction.

Chappell's survey instrument was developed from literature related to job satisfaction and organizational climate. Survey instruments found in the original works of Barr (1988) and Levy (1989) served as a basis for the design of the instrument Chappell used. Regarding validity for survey instruments, Benson (1998) stated that numerous studies utilizing different approaches, different samples, and different populations may be required to build a strong body of evidence that supports or fails to support the validity of the scores derived from a test. Based on these guidelines, Chappell's survey instrument was appropriate for use in this study.

Chappell (1995) stated that the survey instrument was examined for validity, reliability, and consistency by the Board of Directors of the National Council of Instructional Administration. The supervising committee revised Chappell's survey instrument and it was subsequently field tested to ensure validity, reliability, and

consistency. The validation process involved asking nine community college professionals to complete Part I of the survey on two different occasions. A range of responses was recorded from the answers for each of the questions in Part I. Analysis of responses to each of 21 questions indicated the survey instrument was valid and reliable. Eight subjects completed the entire field test. To confirm consistency, answers from the pretest and posttest were compared (Chappell, 1995). A Pearson Product Moment Correlation analysis confirmed the survey could elicit a variety of responses and that the questions were clearly stated. Correlation coefficients for the field test ranged from 0.2336 to 0.9492 (Chappell, 1995).

To test the reliability of the survey instrument for this study, it was completed by five department heads at the University of Florida Physical Plant. Based on this input, the question about the collective bargaining status of the institution from part three of Chappell's study was eliminated from the survey instrument used in this study.

Seven factors about organizational climate, were addressed by the survey instrument. The intent was to see how they related to eight job satisfaction variables. Definitions for the seven organizational climate are shown below.

1. Internal Communication. The institution's formal and informal communication processes and styles.
2. Organizational Structure. The institution's administrative operation or its hierarchal lines of authority and requirements for operating within that hierarchy.
3. Political Climate. The nature and complexity of the institution's internal politics or the degree to which an employee must operate within a political framework in order to accomplish a task.

4. Professional Development Opportunities. The opportunities for employees to pursue and participate in activities to enhance job performance.

5. Evaluation. The institution's procedure for evaluation through positive feedback intended to provide professional growth for the employee.

6. Promotion. The institution's commitment to internal promotion and advancement within the organization.

7. Regard for Personal Concern. The institution's sensitivity to and regard for the personal concerns and well-being of the employee.

Eight job satisfaction factors were used in this study. The intent was to determine the relationship between them and the seven factors of organizational climate. The job satisfaction factors are listed and defined below.

1. Participation in Decision-Making. The institution's process for decision making and opportunities for involvement by the employee to participate in that process.

2. Power. The amount or degree of jurisdiction or discretion that the employee is able to exercise while performing the tasks of his or her position.

3 - 5. Relationship with Colleagues. The quality of the affiliation that an employee maintains with peers, subordinates, and supervisor.

6 - 7. Salary and Benefits. The perceived equity and adequacy of the salary and benefit package received by the employee.

8. Professional Effectiveness. The perceived overall effectiveness of the employee in his or her position.

The survey instrument also included questions regarding the director of physical plant's overall satisfaction with his/her position and his/her overall satisfaction with the institution. Part two of the survey instrument asked for demographic information. A final version of the survey instrument can be found in Appendix A and the cover letter that preceded it is shown in Appendix B.

### Statistical Analysis

Step wise multiple regression analysis was used to determine the nature of the relationship between measures of organizational climate and measures of job satisfaction as reported by directors of physical plants. One-way analysis of variance was used to determine if the means for job satisfaction within the context of organizational climate factors varied when controlling for the demographic variables of ethnicity, gender, number of years at current institution as director of physical plant, classification of the institution based on number of students, and whether the institution was public or private.

### Reporting Procedure

Thirty-seven percent of the 602 surveys were returned. A profile of directors of physical plants was developed by analyzing the data collected. The data were also used to determine the director of physical plant's perception of the organizational climate as well as their levels of satisfaction with the institution's climate. Furthermore, the data revealed how significant each of the job satisfaction factors were and if there were any significant differences while controlling for factors that could influence job satisfaction and organizational climate.

### Summary

Job satisfaction and organizational climate have been topics of research for about seventy years. The relationship between these variables had also been extensively investigated in a variety of work environments though seldom considered in educational settings. No studies were found which measured the constructs of job satisfaction and organizational climate relative to the perspectives of directors of physical plants.

Therefore, this study tested these constructs as reported by directors of physical plants.

Responses to questions regarding the relationship between these two constructs, from the perspective of physical plant directors are reported and analyzed in Chapter 4.

## Chapter 4 PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this study was to investigate the relationship between measures of organizational climate and measures of job satisfaction as applied to directors of physical plants. Furthermore, this study was conducted to determine if there were significant differences in the means for job satisfaction within the context of organizational climate when controlling for gender, ethnicity, classification of the institution by size and type, and number of years served as a director of physical plant. Specifically, the research addressed five questions:

1. How do directors of physical plants perceive organizational climate at their respective institutions, using a set of seven identified factors for climate?
2. Using the same seven climate factors as an index, how satisfied are directors of physical plants with the organizational climate at their respective institutions?
3. How important is each of eight identified job satisfaction variables to directors of physical plants in the performance of their specific job responsibilities?
4. For each of eight job satisfaction variables, is there a significant relationship between measures of job satisfaction and a set of seven measures of satisfaction with organizational climate, as reported by directors of physical plants?
5. Is there a significant difference in the means of eight job satisfaction variables for directors of physical plants when compared by gender of the respondent, ethnic origin of the respondent, classification of the institution by size and type, and length of time served as a director of physical plant?

### Survey Responses

A total of 602 survey instruments were electronically sent to directors of physical plants that were 2001 members of the Association of Higher Education Facilities Officers. A total of 214 were returned, which provided a return rate of 37%.

### Population Profile

#### Gender and Ethnicity

Tables 1 through 3 provide gender and ethnic distributions for directors of physical plants. 210 of the 214 respondents completed the question about gender. Of these, 200 (93.5%) were male and 10 (4.7) were female. One-hundred-ninety-seven directors of physical plants were white which was 92.1% of the population. Blacks and Hispanics both represented less than 3% of the total with 3 and 5 respondents (1.4% and 2.3%) respectively. The remaining 2.8% of the respondents included all other ethnic groups. As shown in Table 3, only four gender/ethnic combinations were significantly represented in the population.

Table 1  
Directors of Physical Plants: Distribution by Gender

Gender	n	%
Male	200	93.5
Female	10	4.7
No response	4	1.9
Total	214	100.0

Table 2  
Directors of Physical Plants: Distribution by Ethnic Origin

Ethnic Origin	n	%
Black/African American	3	1.4
Hispanic	5	2.3
White/Caucasian	197	92.1
Asian American	4	1.9
All other	5	2.3
Total	214	100.0



Table 3

Directors of Physical Plant: Distribution by Gender and Ethnic Origin

Gender & Ethnic Origin	n	%
White Male	183	85.6
White Female	10	4.7
Hispanic Male	5	2.3
Asian/American Male	4	1.8
Black/African American Male	3	1.4
All other	9	4.2
Total	214	100.0

Type of Institution and Number of Students

Table 4 provides information about the type of institutions and number of students at the institutions.

Table 4

Directors of Physical Plants: Distribution by Type of Institution and Number of Students

Classification	n	%
public	139	65.0
private	75	35.0
Number of Students		
0 - 999	13	6.1
1000 - 1999	25	11.7
2000 - 2999	22	10.3
3000 - 3999	18	8.4
4000 - 4999	13	6.1
5000 - 11999	44	20.6
12,000 - 19,999	47	22.0
20,000 and over	32	15.0

### Number of Years Served at Current Institution

Table 5 shows the distribution of directors of physical plant according to the number of years served at their respective institutions.

Table 5

### Directors of Physical Plants: Distribution by Number of Years at Current Institution

Years experience	n	%
Less than 1 year	15	7.0
1-5 years	83	38.8
6-10 years	50	23.4
11-14 years	39	18.2
15 years or more	27	12.6
Total	214	100.0

### Research Question 1

This research question asked how directors of physical plants perceived the organizational climate at their institutions, using a set of seven organizational climate factors. In this study, climate was defined as the conditions that affect job satisfaction and productivity. The factors under consideration included (a) internal communication, (b) organizational structure, (c) political climate, (d) professional development opportunities, (e) evaluation, (f) promotion, and (g) regard for personal concerns. The organizational climate factors were coded as follows:

IC = Perception of Internal Communication;

OS = Perception of Organizational Structure;

PLC = Perception of Political Climate;

PDO = Perception of Professional Development Opportunities;

EVAL = Perception of Evaluation;

PROMO = Perception of Promotion; and

RPC = Perception of Regard for Personal Concerns.

Directors of Physical Plants were asked to rate the degree to which the seven organizational factors were present at their institution with five (5) indicating the highest level of presence and one (1) indicating the lowest level of presence. Therefore, the rating of five was interpreted as the very highest level of presence of the organizational climate factor in question. A rating of four was understood to mean a high level of existence of the factor. A rating of three indicated a moderately high level of existence. A rating of two indicated a low level of existence of the organizational climate factor. A rating of one was understood to mean that a very low level of the organizational climate factor was evident.

Tables 6 provides a composite of the perceptions that directors of physical plants had regarding organizational climate at their institutions. The three organizational climate factors that received the highest mean ratings, as shown in table 6, were regard for personal concerns (RPC), professional development opportunities (PDO), and internal communication (IC). The mean score for RPC was 4.26, with a large majority (n = 181 or 85%) of the directors of physical plants rating RPC as either four or five. Nearly half of

them (n = 106 or 49%) rated this aspect of organizational climate as five, the highest possible rating. These data suggest that directors of physical plants generally believe that they worked in an environment that supported them and where a concern for their personal matters was displayed.

The other organizational factors that received the highest ratings were professional development opportunities (PDO) and internal communication (IC). These received mean scores of 4.07 and 3.81 respectively. A total of 162 directors of physical plants (75.7%) assigned a rating of four or five to PDO and a total of 149 respondents (69.6%) rated internal communication with a four or a five. These data indicated that, in general, directors of physical plants worked in environments where they had sufficient opportunities for professional development and open communication was the norm.

The perception of evaluation (EVAL) also received a relatively high mean rating (3.74). Evaluation was defined as the degree to which the institution's procedures for evaluating employees was perceived as fair and supportive. Over half of the respondents (n = 133 or 62%) felt that the procedures by which they were evaluated were fair and supportive. This important because the evaluation process and how one is perceived has an impact on job satisfaction.

Perception of promotion (PROMO) received the lowest mean rating of all the perceptions of organizational climate (3.30). This was noteworthy because it pointed out the perception that directors of physical plants felt that they had few opportunities for upward mobility within their organizations or institutions. Less than half (n = 100 or 47%) rated PROMO four or five, indicating that they did not feel that they had much opportunity for advancement from their present jobs.

Table 7 shows that internal communication had a positive correlation with organizational structure, professional development opportunities, evaluation, promotional opportunities, and regard for personal concerns. Internal communication had a negative correlation with political climate. Political climate also had a negative correlation with professional development opportunities, evaluation, promotional opportunities and regard for personal concern.

Professional development opportunities also had a positive correlation with evaluation, promotional opportunities, and regard for personal concern. Evaluation also had a positive correlation with promotional opportunities and regard for personal concern.

Table 6  
Directors' of Physical Plants Perceptions of Organizational Climate: Frequency Distributions, Means, and Standard Deviations

Factor	Ratings	5	4	3	2	1	Mean	SD	Totals
IC	n	38	111	53	10	2	3.81	.81	214
	%	17.8	51.9	24.8	4.7	.9			100
OS	n	41	97	56	16	4	3.72	.92	214
	%	19.2	45.3	26.2	7.5	1.9			100
PLC	n	48	64	51	41	10	3.46	1.17	214
	%	22.4	29.9	23.8	19.2	4.7			100
PDO	n	96	66	29	17	6	4.07	1.07	214
	%	44.9	30.8	13.6	7.9	2.8			100
EVAL	n	63	70	51	21	9	3.74	1.11	214
	%	29.4	32.7	23.8	9.8	4.2			100
PROMO	n	24	76	64	40	10	3.30	1.05	214
	%	11.2	35.5	29.9	18.7	4.7			100
RPC	n	106	75	20	9	4	4.26	.93	214
	%	49.5	35.0	9.3	4.2	1.9			100

IC = Perception of Internal Communication

OS = Perception of Organizational Structure

PLC= Perception of Political Climate

PDO = Perception of Professional Development Opportunities

EVAL = Perception of Evaluation

PROMO = Perceptions of Promotion

RPC = Perception of Regard for Personal Concerns

Table 7  
Directors' of Physical Plants Perception of Organizational Climate: Correlation Table:

	IC	OS	PLC	PDO	EVAL	PROMO	RPC
IC	1.00	0.22*	-0.36*	0.26*	0.47*	0.38*	0.40*
OS	0.22*	1.00	0.00	0.07	0.12	0.09	0.13
PLC	-0.36*	0.00	1.00	-0.29*	-0.31*	-0.30*	-0.43*
PDO	0.26*	0.07	-0.29*	1.00	0.41*	0.41*	0.42*
EVAL	0.47*	0.12	-0.31*	0.41*	1.00	0.54*	0.46*
PROMO	0.38*	0.09	-0.30*	0.41*	0.54*	1.00	0.41*
RPC	0.40*	0.13	-0.43*	0.42*	0.46*	0.41*	1.00

\* Correlation is significant at the .05 level.

IC = Perception of Internal Communication

OS = Perception of Organizational structure

PLC = Perception of Political Climate

PDO = Perception of Professional Development Opportunities

EVAL = Perception of Evaluation

PROMO = Perception of Promotion

RPC = Regard for Personal Concerns

### Research Question 2

The second research question examined directors' of physical plants satisfaction with the organizational climate at their institution. Analysis of this data provided a descriptive composite of how satisfied directors of physical plants were with this part of the work environment. Coding of the satisfaction ratings for the seven organizational climate factors used the same pattern as for the ratings of perception, but with a numeral 2 added as follows:

IC2 = Satisfaction with Internal Communication;

OS2 = Satisfaction with Organizational Structure;

PLC2 = Satisfaction with Political Climate;

PDO2 = Satisfaction with Professional Development Opportunities;

EVAL2 = Satisfaction with Evaluation;

PROMO2 = Satisfaction with Promotion; and

RPC2 = Satisfaction with Regard for Personal Concerns

Directors of Physical Plants were asked to rate their level of satisfaction with the organizational climate at their institution with five (5) indicating the highest level of satisfaction with a particular factor and one (1) indicating the lowest level of satisfaction. A rating of four (4) was understood to mean a high level of satisfaction. A rating of three (3) represented a moderate level of satisfaction. A rating of two (2) was interpreted as a low level of satisfaction.

Satisfaction ratings for organizational climate are shown in Tables 8. As was the case regarding perception of organizational climate by directors of physical plants, the



highest ratings for satisfaction of this same variable were (a) regard for personal concern (RPC2 / mean score 4.32), (b) professional development opportunities (PDO2 / mean score 3.99), and (c) internal communication (IC2 / mean score 3.74). Satisfaction ratings for evaluation (EVAL2) and organizational structure (OS2) were also fairly high, 3.64 and 3.60 respectively.

A total of 175 (81.7%) of the directors of physical plants indicated they were either satisfied or highly satisfied with regard for personal concern (RPC2). Only 12 (5.6%) reported that they were unsatisfied or very unsatisfied with RPC. These data are consistent with the 84.6% of the respondents who reported perceptions of strong or very strong regard for personal concern at their institutions. This indicates that directors of physical plants generally were satisfied with the extent to which their institutions showed concern for their personal well-being.

A total of 152 respondents (71%) were either satisfied or highly satisfied with professional development opportunities at their institution. These data were also consistent with reported perceptions about the presence of professional development opportunities, as discussed in the analysis of research question 1. This meant that in general, directors of physical plants were satisfied with the opportunities afforded them for professional development.

A total of 141 respondents (66%) indicated that they were very satisfied or satisfied with internal communication (IC2). These data were also consistent with perceptions about internal communication. In research question 1, 149 people (69.6%) indicated that they were very satisfied or satisfied with their perception of internal

communication at their institution. Only a few people (23, 10.7%) indicated that they were not satisfied with internal communication at their institution.

Directors of physical plants reported lower satisfaction with promotional opportunities (PROMO, mean = 3.30). Although 100 people (46.7%) reported being satisfied or very satisfied with promotional opportunities, almost a quarter of the respondents (n = 50, 23.3%) were unsatisfied or very unsatisfied with promotional opportunities. This indicates that there is considerable concern among directors of physical plants about the likelihood of promotional opportunities.

Directors of physical plants were generally as satisfied with evaluation (EVAL2) as they were with internal communication (IC2), as evidenced by a mean satisfaction rating of 3.74 compared to a mean rating of 3.81 for internal communication. Generally, it appeared that if directors of physical plants perceived that the system for evaluation was fair and supportive, they were satisfied with their evaluations. Since the mean rating for internal communication is nearly the same as that of evaluation (3.74 and 3.81 respectively) internal communication may have been a factor in the level of satisfaction with evaluation.

Pearson product moment correlation coefficients for satisfaction with organizational climate scores are shown in Table 9. One correlation (.479) was between internal communication (IC2) and organizational structure (OS2). This can be interpreted to mean that the organizational structure contributed to internal communication or that internal communication enhanced the organizational structure. A second correlation (.567) was between internal communication (IC2) and evaluation (EVAL2). This can be

interpreted to mean that clear communication inclined respondents to feel more comfortable with the evaluation process. A third correlation (.535) was between internal communication (IC2) and regard for personal concern (RPC2). This can be interpreted to indicate that internal communication enhanced the feeling that people showed concern for each other in the organizations surveyed. A fourth correlation (.453) was between professional development opportunities (PDO2) and evaluation (EVAL2). This can be interpreted to mean that ample opportunities for professional development were present and that people utilized these opportunities which enhanced their evaluations. A fifth correlation (.539) was between professional development opportunities (PDO2) and promotional opportunities (PROMO2). This relationship indicates that when people took advantage of opportunities for professional development their opportunities for advancement increased. A sixth correlation (.512) was between regard for personal concern (RPC2) and professional development opportunities (PDO2). This can be interpreted to indicate that regard for the welfare of others inclined the institution to provide opportunities for professional development which would be mutually beneficial to the employee and the institution.

Directors of physical plants were asked to rate their overall satisfaction with their college. The mean score for overall satisfaction (OSWC) was 3.93 as shown in Table 10. Two hundred and thirteen of the 214 directors of physical plants responded to this question. A total of 63 respondents (29.4%) rated themselves as highly satisfied and an additional 129 (60.3%) rated themselves as satisfied with their college. These data reinforced the generally high ratings for satisfaction with seven organizational climate factors that were reported via the survey instrument. These data also suggested that the majority of directors of physical plants were satisfied overall with their college.

Table 8  
Directors' of Physical Plants Satisfaction with Organizational Climate: Frequency Distributions, Means, and Standard Deviations

Factor Ratings							Mean	SD	Totals					
							5	4	3	2	1			
IC2														
n		38	103	50	21	2						3.74	0.91	214
%		17.8	48.1	23.3	9.8	.9								100
OS2														
n		32	93	63	20	6						3.60	0.96	214
%		14.9	43.5	29.4	9.3	2.8								100
PLC2														
n		42	60	66	30	16						3.39	1.18	214
%		19.6	28	30.8	14	7.5								100
PDO2														
n		94	58	31	22	9						3.99	1.18	214
%		43.9	27.1	14.5	10.3	4.2								100
EVAL2														
n		60	62	49	31	10						3.64	1.19	214
%		28.0	29.0	22.8	14.5	4.7								100
PROMO2														
n		40	66	66	30	12						3.44	1.13	214
%		18.7	30.8	30.8	14.0	5.6								100
RPC2														
n		116	59	27	8	4						4.32	0.94	208
%		54.2	27.6	12.6	3.7	1.9								100

IC2 = Satisfaction with Internal Communication

OS2 = Satisfaction with Organizational Structure

PLC2 = Satisfaction with Political Climate

PDO2 = Satisfaction with Professional Development Opportunities

EVAL2 = Satisfaction with Evaluation

PROMO2 = Satisfaction with Promotion

RPC2 = Satisfaction with Regard for Personal Concerns

Table 9

Directors' of Physical Plants Satisfaction with Organizational Climate: Correlation Table

	IC2	OS2	PLC2	PDO2	EVAL2	PROMO2	RPC2
IC2	1.00	0.47*	0.00	0.44*	0.56*	0.43*	0.53*
OS2	0.47*	1.00	0.10	0.27*	0.39*	0.39*	0.42*
PLC2	-0.00	0.10	1.00	-0.10	-0.15*	-0.08	0.00
PDO2	0.44*	0.27*	-0.10	1.00	0.45*	0.53*	0.51*
EVAL	0.56*	0.39*	-0.15*	0.45*	1.00	0.42*	0.41*
PROMO	0.43*	0.39*	-0.08	0.53*	0.42*	1.00	0.53*
RPC2	0.53*	0.42*	0.00	0.51*	0.41*	0.53*	1.00

\* Correlation is significant at the .05 level.

IC2 = Satisfaction with Internal Communication

OS2 = Satisfaction with Organizational Structure

PLC2 = Satisfaction with Political Climate

PDO2 = Satisfaction with Professional Development Opportunities

EVAL2 = Satisfaction with Evaluation

PROMO2 = Satisfaction with Promotion

RPC2 = Satisfaction with Regard for Personal Concerns

Table 10

Directors' of Physical Plants Overall Satisfaction with Institution: Frequency Distribution and Mean Distribution

Frequency Distribution

Factor	Ratings					Total
	5	4	3	2	1	
OSWC						
n	63	97	32	18	3	213
%	29.4	45.3	15.0	8.4	1.4	99.5

Mean Distribution

Factor	N	Mean	SD
OSWC	213	3.93	0.82

OSWC = Overall Satisfaction with College

### Research Question 3

The third research question examined how important eight job satisfaction variables were to directors of physical plants in the performance of their jobs. The composite for the significance of the eight job satisfaction variables is provided in Tables 11 through 13.

The eight job satisfaction variables used in this study were (a) participation in decision making, (b) autonomy, power, control, (c) relationship with peers, (d) relationship with subordinates, (e) relationship with superior, (f) salary, (g) benefits, and (h) professional effectiveness. They were coded as follows:

DM = Importance of Participation in Decision Making;

APC = Importance of Autonomy, Power, Control;

RWP = Importance of Relationship with Peers;

RWSub = Importance of Relationship with Subordinates;

RWSup = Importance of Relationship with Supervisor;

SAL = Importance of Salary;

BENE = Importance of Benefits; and

PE = Importance of Professional Effectiveness

Each director of physical plant was asked to rate each factor for job satisfaction on a scale of one to five, with five as the maximum response and one as the minimum response. A rating of five was interpreted to signify very important. A rating of four was interpreted to signify important. A rating of three was interpreted to signify moderately important. A rating of two was interpreted to signify unimportant. A rating of one was interpreted to signify very unimportant. These ratings are recorded in Table 11.

A close examination of Tables 11 and 12 reveals that all eight job satisfaction variables were important to directors of physical plants. Five variables were especially important to the respondents as evidenced by mean scores above four. In descending order these were relationship with subordinates (RWSub, mean = 4.49), relationship with supervisor (RWSup, mean = 4.42), relationship with peers (RWP, mean = 4.40), professional effectiveness (PE, mean = 4.36), and benefits (BENE, mean = 4.14). These data are consistent with the literature in that they pointed out the importance of building strong relationships in the work environment in order to accomplish organizational objectives in a professional manner.

Relationship with subordinates (RWSub) was the most important factor to directors of physical plants as evidenced by the fact that 96.7% of the respondents rated this factor as either important or very important. None of them rated it as unimportant. This pointed out the importance of establishing and nurturing caring work environments that support employees of institutional organizations. Relationship with supervisor (RWSup) was the second most important factor for the respondents. This was verified by the fact that 88.8% of them rated it as important or very important. This underscored the significance of establishing relationships with higher level administration within a college environment. The third most important variable, based on mean, was relationship with peers (RWP). However, it was rated as important or very important by a higher percentage (93.0) than the second most important variable, relationship with supervisor (RWSup, 88.8%). High concern for this factor confirms the critical importance of establishing good relationships with peers that strengthen teams and extend networking



opportunities. None of the respondents rated this factor as unimportant. The fourth most important variable, based on mean, was professional effectiveness (PE). This factor was rated as important or very important by 93.5% of the directors of physical plants. The critical importance of leadership that could achieve high quality products and service was verified by these data. Benefits (BENE) was the fifth most important factor since 83.2% of the respondents rated it important or very important. This pointed out the fact that a comprehensive benefits package was highly valued by directors of physical plant directors and viewed as an important component of compensation. An interesting fact was that salary (SAL) was not as highly ranked as benefits (BENE). The mean for salary was lower ( 3.97) and a lower percentage of respondents (78.5) considered it important or very important.

The two factors rated lowest by mean were autonomy, power and control (APC, mean = 3.78) and decision making (DM, mean = 3.73). Respectively, only 64.5% and 69.6 % of the directors of physical plants considered these factors important or very important. These data confirmed that there was less concern about being autonomous and less interest in making decisions unilaterally. Both of these characteristics about the growing trend of collaboration were consistent with the review of literature.

Pearson product moment correlation coefficients for the job satisfaction variables are shown in Table 12. The strongest relationship was found between benefits (BENE) and salary (SAL) with a correlation coefficient of 0. 74. This was not surprising because salary and benefits were often regarded as the primary components of compensation for work (Hoppock, 1977). The second strongest relationship was between autonomy, power,

and control (APC) and decision making (DM). This high correlation coefficient (0.54) pointed out the importance of having the administrative latitude to manage human resources and facilities with a minimum of interference. The third strongest relationship was between relationship with supervisor (RWSup) and autonomy, power, and control (APC). This correlation coefficient (0.45) revealed the importance of having the autonomy and power to make decisions that will be supported and pass the test of scrutiny by others, the supervisor in particular. Another significant relationship was between relationship with subordinates (RWSub) and relationship with peers (RWP). This correlation coefficient was 0.43 and pointed out the fact that it was important to have healthy relationships at all organizational levels. The last strong relationship was between relationship with supervisor (RWSup) and relationship with peers (RWP). This correlation coefficient was 0.42 and further verified the importance of having healthy relationships with others throughout an organization. These associations were not surprising considering the amount of interaction that was implied by the generally high ranking of internal communication.

The mean score for overall satisfaction with position (OSWP) was 4.13 as shown in Table 13. This table also shows the frequency and mean distributions for OSWP. A total of 172 respondents (80.4%) rated themselves as satisfied or very satisfied with their position. Directors of physical plants placed a high value on all job satisfaction variables, generally provided high ratings for satisfaction with the seven organizational climate factors, and indicated overall satisfaction with college (OSWC). These data therefore suggest that a relationship between measures of organizational climate and measures of job satisfaction did exist for directors of physical plants.

Table 11  
Importance of Job Satisfaction Variables to Directors of Physical Plants: Frequency Distributions, Means, and Standard Deviations

Variable	Ratings					Mean	SD	Totals
		5	4	3	2	1		
DM	n	47	91	55	22	3	3.73	214
	%	22.0	42.5	23.8	10.3	1.4		100
APC	n	45	104	38	21	4	3.78	212
	%	21.0	48.6	17.8	9.8	1.9		100
RWP	n	104	95	11	4	0	4.40	214
	%	48.6	44.4	5.1	1.9	0		100
RWS <sub>Sub</sub>	n	112	95	6	1	0	4.49	214
	%	52.3	44.4	2.8	.5	0		100
RWS <sub>Sup</sub>	n	120	70	19	1	3	4.42	213
	%	56.1	32.7	8.9	.5	1.4		100
SAL	n	54	114	32	11	2	3.79	213
	%	25.2	53.3	15.0	5.1	.9		100
BENE	n	73	105	27	7	1	4.14	213
	%	34.1	49.1	12.6	3.3	.5		100
PE	n	98	102	9	4	1	4.36	214
	%	45.8	47.7	4.2	1.9	.5		100

DM = Importance of Participation in Decision-Making

APC = Importance of Autonomy, Power, Control

RWP = Importance of Relationship with Peers

RWS<sub>Sub</sub> = Importance of Relationship with Subordinates

RWS<sub>Sup</sub> = Importance of Relationship with Supervisor

SAL = Importance of Salary

BENE = Importance of Benefits

PE = Importance of Professional Effectiveness

Table 12

Importance of Job Satisfaction Variables to Directors of Physical Plants: Correlation Table

	DM	APC	RWP	RWSub	RWSup	SAL	BENE	PE
DM	1.00	0.54*	0.19*	0.08	0.27*	0.13*	0.07	0.32*
APC	0.54*	1.00	0.27*	0.02	0.45*	0.26*	0.17*	0.29*
RWP	0.19*	0.27*	1.00	0.43*	0.42*	0.30*	0.31*	0.34*
RWSub	0.08	0.02	0.43*	1.00	0.28*	0.13	0.17*	0.33*
RWSup	0.27*	0.45*	0.42*	0.28*	1.00	.00	0.05	0.29*
SAL	0.13*	0.26*	0.30*	0.13	0.00	1.00	0.74*	0.28*
BENE	0.07	0.17*	0.31*	0.17*	0.05	0.74*	1.00	0.30*
PE	0.32*	0.29*	0.34*	0.34*	0.33*	0.28*	0.30*	1.00

\* Correlation is significant at the 0.05 level.

DM = Importance of Participation in Decision-Making

APC = Importance of Autonomy, Power, Control

RWP = Importance of Relationship with Peers

RWSub = Importance of Relationship with Subordinates

RWSup = Importance of Relationship with Supervisor

SAL = Importance of Salary

BENE = Importance of Benefits

PE = Importance of Professional Effectiveness

Table 13  
Directors' of Physical Plants Overall Satisfaction with Position: Frequency Distribution and Mean Distribution

Frequency Distribution						
Variable	Ratings					Totals
	5	4	3	2	1	
OSWP						
n	76	96	25	9	2	208
%	35.5	44.9	11.7	4.2	.9	100
Mean Distribution						
Variable	N		Mean		SD	
OSWP	208		4.13		.86	

OSWP = Overall Satisfaction with Position

#### Research Question 4

The fourth research question examined the relationship between measures of job satisfaction and measures of satisfaction with seven organizational climate factors as reported by directors of physical plants. Table 14 shows the correlation coefficients for the job satisfaction variables (DM, APC, RWP, RWSub, RWSup, SAL, BENE, and PE) as well as the satisfaction ratings for organizational climate (IC2, OS2, PLC2, PDO2, EVAL2, PROMO2, and RPC2). It is noteworthy to mention that all significant relationships were positive except those with political climate, which were all negative.

Table 14  
The Relationship Between Measures of Job Satisfaction and Measures of Organizational Climate: Correlation Table

	DM	APC	RWP	RWSub	RWSup	SAL	BENE	PE
IC2	0.34*	0.36*	0.30*	0.15*	0.29*	0.15*	0.19*	0.36*
OS2	0.13*	0.19*	0.22*	0.12	0.18*	0.08	0.03	0.29*
PLC2	-0.20*	-0.20*	0.03	0.00	-0.15*	-0.09	-0.10	0.01
PDO2	0.23*	0.18*	0.35*	0.13	0.20*	0.15	0.17*	0.25*
EVAL2	0.43*	0.52*	0.23*	0.02	0.49*	0.11	0.12	0.37*
PROMO2	0.10	0.18*	0.43*	0.18*	0.25*	0.32*	0.31*	0.32*
RPC2	0.23*	0.27*	0.45*	0.11	0.27*	0.17*	0.16*	0.40*

\* Correlation is Significant at the 0.05 level.

DM = Importance of Participation in Decision-Making

APC = Importance of Autonomy, Power, Control

RWP = Importance of Relationship with Peers

RWSub = Importance of Relationship with Subordinates

RWSup = Importance of Relationship with Supervisor

SAL = Importance of Salary

BENE = Importance of Benefits

PE = Importance of Professional Effectiveness

IC2 = Satisfaction with Internal Communication

OS2 = Satisfaction with Organizational Structure

PLC2 = Satisfaction with Political Climate

PDO2 = Satisfaction with Professional Development Opportunities

EVAL2 = Satisfaction with Evaluation

PROMO2 = Satisfaction with Promotion

RPC2 = Satisfaction with Regard for Personal Concerns

### Decision Making

Table 14 indicates that a significant relationship existed between participation in decision making (DM) and six of the seven organizational climate factors: internal communication (IC2), organizational structure (OS2), political climate (PLC2), professional development opportunities (PDO2), evaluation (EVAL2), and regard for personal concern (RPC2). Step wise multiple regression was utilized to determine which of the seven organizational climate factors had the greatest impact on decision-making. The results shown in Table 15 indicate that evaluation (EVAL2) had the greatest impact on decision making. Step wise multiple regression found that none of the other organizational climate factors were significant. These data suggested that when a director of physical plant felt that the evaluation process was fair and accurate, the ability to make decisions was enhanced.

Table 15

### Step Wise Multiple Regression for Decision-Making and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Evaluation	.00	.19
2	Political Climate	.06	.12
3	Internal Communication	.07	.13
4	Promotional Opportunities	.16	.09
5	Regard for Personal Concerns	.34	.06
6	Professional Development Opportunities	.47	.05
7	Organizational Structure	.61	.03

### Autonomy, Power, and Control

Table 14 indicates that a significant relationship existed between autonomy, power, and control (APC) and all seven organizational climate factors. All of these relationships were positive except the one with political climate (PLC2). Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on autonomy, power, and control. The results shown in Table 16 indicate that evaluation (EVAL2) had the greatest impact on autonomy, power, and control. Step wise multiple regression found that none of the other organizational climate factors were significant. These data suggest that when directors of physical plants felt the evaluation process was fair and accurate, their feelings of autonomy, power, and control in their job environments were enhanced.

Table 16

#### Step Wise Multiple Regression for Autonomy, Power, and Control and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Evaluation	.00	.27
2	Political Climate	.05	.11
3	Internal Communication	.11	.11
4	Professional Development Opportunities	.31	.06
5	Regard for Personal Concerns	.33	.06
6	Promotional Opportunities	.66	.02
7	Organizational Structure	.78	.27



### Relationship with Peers

Table 14 indicates that a significant relationship existed between relationship with peers (RWP) and all seven of the organizational climate factors except political climate (PCL). Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on relationship with peers. The results shown in Table 17 indicate that promotional opportunities (PROMO2) and regard for personal concerns (RPC) were significant. These data suggest that relationship with peers was enhanced when there was a high regard for the personal concern of others and when adequate promotional opportunities were available.

Table 17

### Step Wise Multiple Regression for Relationship with Peers and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Promotional Opportunities	.00	.18
2	Regard for Personal Concerns	.00	.23
3	Political Climate	.38	.05
4	Professional Development Opportunities	.55	.04
5	Internal Communication	.58	.04
6	Organizational Structure	.82	.01
7	Evaluation	.91	.00

### Relationship with Subordinates

Table 14 indicates that there was a relationship between relationship with subordinates (RWSub) and two organizational climate factors: internal communication (IC2) and promotional opportunities (PROMO2). Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on relationship

with subordinates. The results shown in Table 18 indicate that promotional opportunities (PROMO2) was significant. These data suggest that adequate promotional opportunities had a positive impact on relationships with subordinates for directors of physical plants.

Table 18

Step Wise Multiple Regression for Relationship with Subordinates and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Promotional Opportunities	.01	.03
2	Internal Communication	.27	.08
3	Organizational Structure	.41	.06
4	Evaluation	.43	.06
5	Professional Development Opportunities	.63	.03
6	Regard for Personal Concerns	.97	.00
7	Political Climate	.98	.00

Relationship with Supervisor

Table 14 indicates that there was a significant relationship between relationship with supervisor (RWSup) and all seven of the organizational climate factors. The relationship with political climate (PLC2) was negative which suggested that a political environment did not enhance the relationship with supervision, for directors of physical plants. Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on relationship with supervisor. The results shown in Table 19 indicate that evaluation (EVAL2) was significant. These data suggest that when directors of physical plants perceive that the evaluation process is fair and accurate the relationship with supervisors was affected in a positive way.

Table 19

Step Wise Multiple Regression for Relationship with Supervisor and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Evaluation	.00	.23
2	Political Climate	.21	.07
3	Regard for Personal Concerns	.37	.06
4	Promotional Opportunities	.46	.05
5	Professional Development Opportunities	.73	.02
6	Organizational Structure	.74	.02
7	Internal Communication	.88	.01

Salary

There was a significant relationship between the importance of salary (SAL) and internal communication (IC2), professional development opportunities (PDO2), promotional opportunities (PROMO2), and regard for personal concern (RPC2). These data are shown in Table 14. Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on salary. The results shown in Table 20 indicate that promotional opportunities (PROMO2) was significant. These data indicate that the presence of promotional opportunities tended to have a positive effect on salaries for directors of physical plants.

Table 20

Step Wise Multiple Regression for Salary and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Promotional Opportunities	.00	.10
2	Political Climate	.31	.06
3	Organizational Structure	.48	.05
4	Professional Development Opportunities	.66	.03
5	Internal Communication	.70	.02
6	Evaluation	.82	.01
7	Regard for Personal Concerns	.97	.02

Benefits

Table 14 shows that there was a significant relationship between the importance of benefits (BENE) and four organizational climate factors: internal communication (IC2), professional development opportunities (PDO2), promotional opportunities (PROMO), and regard for personal concerns (RPC2). Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on benefits. The results shown in Table 21 indicate that promotional opportunities (PROMO2) was significant. These data suggest that promotional opportunities tended to have a positive impact on benefits for directors of physical plants.

Table 21

Step Wise Multiple Regression for Benefits and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Promotional Opportunities	.00	.10
2	Organizational Structure	.12	.11
3	Political Climate	.25	.07
4	Internal Communication	.29	.07
5	Regard for Personal Concerns	.85	.01
6	Evaluation	.92	.00
7	Professional Development Opportunities	.97	.00

Professional Effectiveness

There was a significant relationship between professional effectiveness (PE) and six organizational factors as shown in Table 14: internal communication (IC2), organizational structure (OS2), professional development opportunities (PDO2), evaluation (EVAL), promotional opportunities (PROMO2), and regard for personal concerns (RPC2). Step wise multiple regression was used to determine which organizational climate factor had the greatest impact on professional effectiveness. The results shown in Table 22 indicate that regard for personal concern (RPC2) and evaluation (EVAL2) were significant. These data suggested that for directors of physical plants professional effectiveness was enhanced when the evaluation process was considered fair and accurate as well as when regard for personal concerns was displayed in the work environment.

Table 22

Step Wise Multiple Regression for Professional Effectiveness and Seven Organizational Climate Factors

Step	Factor	Significance	R <sup>2</sup>
1	Regard for Personal Concerns	.00	.13
2	Evaluation	.00	.19
3	Organizational Structure	.11	.11
4	Promotional Opportunities	.12	.12
5	Internal Communication	.57	.04
6	Political Climate	.60	.03
7	Professional Development Opportunities	.77	.02

Research Question 5

This question asked if there was a significant difference in the means of eight job satisfaction variables for directors of physical plants when compared by gender of the respondent, ethnic origin of the respondent, classification of the institution by size of student body, whether the institution was public or private, and length of time served at present institution as director of physical plant. A total of 200 respondents out of 214 (93.45%) were males and 197 out of 214 (92%) were white. It was concluded that analysis of this distribution could not provide statistically significant results. Therefore, ethnic origin of the respondent and gender of the respondent were not used in the one-way analysis of variance to test for significant differences in the means of the eight job satisfaction variables.

Decision-Making

A one-way analysis of variance was used to determine if there were statistically significant differences in the means for size of institutions with regard to decision

making. A significance level of .05 indicated that no significant differences were found. A one-way analysis of variance was also used to determine if there were statistically significant differences in the means for number of years served at present institution as director of physical plant with regard to decision making. A significance level of .37 indicated that no significant differences were found. A one-way analysis of variance was also used to determine if there were statistically significant differences in the means for public or private institutions with regard to decision making. A significance level of .17 indicated that no significant differences were found.

#### Autonomy, Power, and Control

A one-way analysis of variance was used to determine if there were statistically significant differences in the means for size of institution with regard to autonomy, power, and control. Table 23 shows that significance level of .03 indicated there were statistically significant differences. The Tukey HSD was used as a follow up procedure to determine which sizes of institutions had a statistically significant difference with regard to autonomy, power, and control. The follow up procedure found that institutions that had a student enrollment of 20,000 and over were significantly different than those which had an enrollment of 12,000-19,000. Since the mean was higher for this group, this indicated that directors of physical plants felt a higher degree of autonomy, power, and control than those at the smaller institutions.

Table 23

Analysis of Variance for Autonomy, Power, and Control and Size of Institution

Source	Sum of Squares	df	Mean Square	F	Sig.
Class	13.44	7	1.92	2.18	.03*
Error	179.139	204	.87		

\* significant at  $\alpha = .05$

A one-way analysis of variance was also used to determine if there were statistically significant differences in the means for years of experience as director of physical plant with regard to autonomy, power, and control. A significance level of .31 indicated that there were no significant differences. This same procedure was used to determine if there were statistically significant differences in the means for type of institution, whether public or private, with regard to autonomy, power, and control. A significance level of .71 indicated that there were no significant differences.

Relationship with Peers

A one-way analysis of variance was used to determine if there were statistically significant differences in the means for size of institution with regard to relationship with peers. Table 24 shows that a significance level of .04 indicated there were statistically significant differences. The Tukey HSD was utilized as a follow up procedure to determine which sizes of institutions had a statistically significant difference in means with regard to relationship with peers. The follow up procedure found that institutions that had an enrollment of 20,000 and over had a significant difference in means than those with an enrollment of 0-999. Since the larger institutions had a higher mean, this



indicated that directors of physical plants at the larger institutions had a higher opinion of their relationship with peers than those at smaller institutions.

Table 24

Analysis of Variance for Relationship with Peers and Size of Institution

<u>Source</u>	<u>Sum of Squares</u>	<u>df</u>	<u>Mean Square</u>	<u>F</u>	<u>Sig.</u>
Class	6.37	7	.91	2.06	.04*
Error	90.86	206	.44		

\* significant at  $\alpha = .05$

A one-way analysis of variance was also used to determine if there were statistically significant differences in means for years of experience as a director of physical plant with regard to relationship with peers. A significance level of .55 indicated that there were no significant differences. This same procedure was used to determine if there were statistically significant differences in means for type of institution, public or private, with regard to relationship with supervisors. A significance level of .49 indicated that no significant differences were found.

Relationship with Subordinates

A one-way one way analysis of variance was used to determine if there were statistically significant differences in means for size of institution with regard to relationship with subordinates. A significance level of .42 indicated that no significant differences were found. This same procedure was used to determine if there were statistically significant differences in means for years of experience as director of physical plant with regard to relationship with subordinates. A significance level of .58 indicated that no significant differences were found. A one-way ANOVA was also used to

determine if there were statistically significant differences in means for type of institution, public or private, with regard to relationship with subordinates. A significance level of .15 indicated that no significant differences were found.

#### Relationship with Supervisor

A one-way analysis of variance was used to determine if there were statistically significant differences in means for size of institution with regard to relationship with supervisor. Table 25 shows a significance level of .00 which indicated that there were statistically significant differences. A Tukey HD was used as a follow up procedure to determine which institutions had statistically significant differences in means. This procedure found that institutions with enrollments 1000-1999 were significantly different than those with enrollments 0-999. Since the larger institutions had a higher mean, this indicated that directors of physical plants at these institutions had significantly better relationship with supervisors.

Table 25

#### Analysis of Variance for Relationship with Supervisors and Size of Institution

Source	Sum of Squares	df	Mean Square	F	Sig.
Class	12.55	7	1.79	3.07	.00*
Error	119.41	205	.58		

\* significant at  $\alpha = .05$

A one-way analysis of variance was also used to determine if there were statistically significant differences in means for years of experience as a director of physical plant with regard to relationship with peers. A significance level of .75 indicated that no significant differences were found. This same procedure was used to determine if

there were statistically significant differences in means for type of institution, public or private, with regard to relationship with supervisor. A significance level of .49 indicated that no significant differences were found.

### Salary

A one-way analysis of variance was used to determine if there were statistically significant differences in means for size of institution with regard to salary. Table 26 indicates that a statistically significant difference was found. The Tukey HD was used as a follow up procedure to determine which institutions were significantly different with regard to salary. It was determined that institutions with enrollments 20,000 and over had significantly different means, which were higher, than those with enrollments 0-999.

Table 26

### Analysis of Variance for Salary and Size of Institution

Source	Sum of Squares	df	Mean Square	F	Sig.
Class	10.40	7	1.48	2.216	.03*
Error	137.43	205	.67		

\* significant at  $\alpha = .05$

A one-way analysis of variance was also used to determine if there were statistically significant differences in means for years of experience as director of physical plant with regard to salary. A significance level of .78 indicated that no significant differences were found. This same procedure was used to determine if there were statistically significant differences in means for type of institution, public or private, with regard to salary. A significance level of .17 indicated that no significant differences were found.

### Benefits

To determine if there were statistically significant differences in means for size of institution with regard to benefits a one-way analysis of variance was used. A significance level of .25 indicated that no significant differences were found. This procedure was also used to determine if there were statistically significant differences in means for years of experience as a director of physical plant with regard to benefits. No statistically significant differences were found. This procedure was also utilized to determine if there were statistically significant differences in mean for type of institution, public or private, with regard to benefits. No statistically significant differences were found.

### Professional Effectiveness

A one-way analysis of variance was used to determine if there were statistically significant differences in means for size of institution with regard to professional effectiveness. A significance level of .79 indicated that none were found. This procedure was also used to determine if there were statistically significant differences in means for experience as director of physical plant with regard to professional effectiveness. None were found. Likewise no statistically significant differences in means were found for type of institution, public or private, with regard to professional effectiveness when this same procedure was used.

### Summary

Six hundred and two survey instruments were electronically sent to directors of physical plants who were members of the Association of Higher Education Facilities Officers in the year 2001. A total of 214 were returned, rendering a 37% rate of return.

The data provided a profile of directors of physical plants and composites of their perceptions about organizational climate, their satisfaction with organizational climate, and how important they found eight job satisfaction variables to be in the performance of their jobs.

Significant relationships were found between the seven organizational climate factors and the eight job satisfaction variables, as they relate to directors of physical plants, research question 4, and are shown in Table 12. To determine which organizational climate factors had the most significant impact on each of the job satisfaction variables, step wise multiple regression was used. Evaluation had the greatest impact on decision making, autonomy, power, and control, relationship with supervisor, and professional effectiveness. Promotional opportunities had the greatest impact on relationship with peers, relationship with subordinates, salary, and benefits. Relationship with peers and professional effectiveness were also impacted by regard for personal concerns.

One-way analysis of variance was used to determine if there were statistically significant differences in means for each job satisfaction variable in regard to size of the institution, years of experience as director of physical plant, and type of institution which was either public or private. Statistically significant differences were found in the means for autonomy, power, and control and the size of the institution. Statistically significant differences were also found in the means for relationship with peers and the size of the institution. Statistically significant differences in means were also found in relationship with supervisor and size of the institution. Chapter 5 includes an analysis of this data, conclusions that can be drawn from it, and a recommendation for future research.

## Chapter 5

### CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to investigate the relationship between measures of organizational climate and measures of job satisfaction as applied to directors of physical plants. Another intent was to determine if there were significant differences in means for job satisfaction within the context of organizational climate when controlling for gender, ethnicity, classification of the institution by size and type, and number of years in present position. Specifically, the research addressed five questions.

1. How do directors of physical plants perceive organizational climate at their respective institution using a set of seven factors for climate?
2. Using the same seven climate factors as an index, how satisfied are directors of physical plants with the organizational climate at their respective institution?
3. How important is each of eight job satisfaction variables to directors of physical plants in the performance of their jobs?
4. For each of eight job satisfaction variables, is there a significant relationship between measures of job satisfaction and a set of seven measures of satisfaction with organizational climate, as reported by directors of physical plants?
5. Is there a significant difference in the means of eight job satisfaction variables for directors of physical plants when compared by gender of the respondent, ethnic origin of the respondent, classification of the institution by size and type, and length of time served in present position.

## Conclusions

### Profile of the Director of Physical Plant

For the purpose of this study, the director of physical plant was defined as the chief facilities officer at an institution. The average director of physical plant was a white male. However, every ethnic/gender combination was represented. The average respondent had been in his/her present job 5.21 years. Most directors of physical plants (139 out of 214, 65%) served at public institutions. Almost half of the respondents (42.6) worked at institutions which had 5000-19,999 students.

### Directors' of Physical Plants Perception of Organizational Climate

Those who responded to the survey instrument revealed the presence of all organizational climate factors at their respective institution. These were internal communication, organizational structure, political climate, professional development opportunities, evaluation, promotion, and regard for personal concerns. Three of these factors: regard for personal concerns (RPC), professional development opportunities (PDO), and internal communication (IC) received the highest mean score ratings. These data indicated that directors of physical plants believed they worked in environments where concern was shown for people, opportunities for further training existed, and internal communication was effective.

### Directors' of Physical Plants Satisfaction with Organizational Climate

The three highest satisfaction ratings regarding the organizational climate factors, as shown in Table 8, were regard for personal concerns (RPC), professional development opportunities (PDO), and internal communication (IC). Over 80% of all directors of

physical plants were satisfied with their positions on campus and almost 75% were satisfied with the overall operation of their college.

Directors' of physical plants satisfaction with regard for personal concerns was consistent with their perceptions about it. The overall perception of and satisfaction with regard for personal concerns were both above 80%. Similarly, the perception about professional development opportunities and satisfaction with them were consistent with each other. Most of the respondents (84.5%) perceived that there were ample opportunities for further training at their institution and 81.8% were satisfied with these opportunities.

The mean scores revealed that the lowest level of satisfaction was with political climate. The data revealed that about half of the respondents (47.6%) were satisfied with the political climate while 52.4% were moderately satisfied or unsatisfied with the political climate on campus.

The findings about satisfaction with organizational climate and how it was related to job satisfaction supported the review of literature, in particular: Argyris (1964), Beck (1990), Bennis (1966), and Golembiewski (1962).

### Importance of Job Satisfaction

As evidenced by the frequency distribution ratings, all eight job satisfaction variables used in this study were important to directors of physical plants. Most important to them were relationship with subordinates (RWSub), relationship with superior (RWSup), relationship with peers (RWP), professional effectiveness (PE), and benefits (BENE). Salary (SAL), autonomy, power, and control (APC), and decision making (DM)



were less important to the respondents. These findings indicate that good relationships with others in the work setting were most important to directors of physical plants. These findings supported the research of Jenkins (1999) and Medlin (1999) who stated that good relationships were the most important ingredient for success for managers of facilities. The fact that autonomy, power, and control as well as decision making were less important to directors of physical plants pointed out the significance of collaboration in the process of successful leadership. These findings supported the research of Beck (1990), Benfari (1995), and Bolman (1984).

#### The Relationship between Measures of Organizational Climate and Measures of Job Satisfaction

Table 14 in Chapter 4 shows the many significant relationships found between organizational climate factors and job satisfaction variables. Step wise multiple regression was utilized to determine which organizational climate factor had the greatest impact on each of the eight job satisfaction variables. Evaluation had the greatest affect on decision making, autonomy, power, and control, relationship with supervisor, and professional effectiveness. These findings reinforced the research of Argyris (1976), Gruneberg (1979), and Berry (1999) which pointed out importance of people knowing how well they are performing in their job environment.

Promotional opportunities was the organizational climate factor that had the greatest impact on relationship with subordinates, salary, and benefits. Regarding salary and benefits, these findings reinforced the studies of Cain (2000), Galpin (1996), Guest (1962), and Hackman and Suttle (1977) who asserted that when employees have increased potential for advancement they are more likely to be compensated well in the present jobs.

Regard for personal concern was found to be significantly related to relationship with peers and professional effectiveness. These findings pointed out the importance of investing in the lives of others and supported the research of Capodagli and Jackson (1999), Clarke (1992), who provided their versions of the golden rule.

### Implications

The findings of this study have implications for leaders in most organizations so that work environments can be enhanced and job satisfaction enriched. In particular, these findings would be especially useful to administrators at institutions of higher learning, including directors of physical plants. These and other leaders who are interested in providing a positive organizational climate and helping people be satisfied on the job should recognize that it is imperative to consider the perspectives of those who do the work of the enterprise. For example, a demonstration of regard for the personal concerns of employees is imperative in order to have a successful caring organization that treats people as an important resource. Providing professional development opportunities is also an important and edifying component of organizational climate since it contributes to job satisfaction and ultimately to organizational success. Clear lines of internal communication are critical and an essential component of a positive organizational climate. They help and allow people to successfully interact to build relationships so that the business of an organization can be effectively and efficiently accomplished. The perception that professional development opportunities exist was important to directors of physical plants. This feeling contributed to job satisfaction for them and it is reasonable to conclude that this is also a common concern for other people in different types of

organizations. A clear and fair process of evaluation was also important to directors of physical plants. Employees need to know organizational expectations and how well their performance is meeting these expectations. Lastly, organizational structure is a major factor which impacts the people in it and ultimately the organization itself. Just as the research of Kristof (1996) indicated, employees who have a comfortable fit within the organizational structure are more likely to be satisfied with it and more likely to be satisfied with their jobs. This information can help administrators understand their organizations better and help them bring about change.

#### Suggestions for Further Research

Three specific opportunities exist to further advance the body of knowledge about organizational climate and job satisfaction. First, it would be helpful and interesting to know if similar relationships between measures of organizational climate and job satisfaction exist for others who work in universities and colleges. It would also be helpful to know if other administrators as satisfied with their organizations and jobs as directors of physical plants. Second, considering the importance of collaborative decision making, it would be helpful to know how organizational structures can be designed to promote this successful leadership style. Third, it would be beneficial to understand why there is so little diversity among directors of physical plants. Why is this profession dominated by white men? More qualitative methods might be helpful to obtain more precise information about the profession to determine why so few women and minorities were involved in it.

In this study, the survey instrument was sent electronically to directors of physical plants so that it would be convenient and easy to respond. Despite this effort, a limitation of this study is the relatively low rate of return for the survey instrument, 37 percent. In future studies of this type it might be advisable to precede the instrument with written correspondence to inform people about the study and ask for their help. Contacting potential respondents about a week after the survey is sent to inquire about their intent to participate might prove useful.

This research supported current theories and practices in higher education. In particular, it pointed out significant relationships between organizational climate and job satisfaction for directors of physical plants. These findings have applications for leaders in the management of facilities. Future studies might investigate the relationship between organizational climate and job satisfaction for other leaders in higher education such as directors of campus unions, directors of planning, and directors of housing.

## APPENDIX A

### ORGANIZATIONAL CLIMATE QUESTIONNAIRE FOR DIRECTORS OF PHYSICAL PLANTS

**Purpose and Rationale:** The purpose of this questionnaire is to gather perceptions about institutional climate from Directors of Physical Plants. Director of Physical Plant is defined as the chief administrative officer responsible for facilities on campus. Climate is defined as the conditions that affect job satisfaction and productivity. "Climate" to an organization is what "personality" is to an individual.

This survey instrument consists of two parts.

**Part I** includes questions related to your college and your position.

**Part II** includes questions pertaining to demographic information.

Please read all questions carefully. All responses will be treated confidentially.

Please complete and return this survey instrument by July 10, 2001.

Please return your completed survey instrument by clicking on SUBMIT at the end of the questionnaire.

Thank you for your time and thoughtful participation in this project.

#### Part I: Organizational and Position Ratings

Instructions: Considering your own experience at your college, please select the number of the rating that best represents your opinion or perception. Descriptions of the extremes on the continuum have been provided to assist you in choosing your answers.

**Section A.** Please rate the level or degree to which the following qualities are present at your college, with five (5) indicating the highest level of presence and one (1) indicating the lowest level of presence.

- Internal communication** - the college's formal and informal communication processes and style (Ex.: articulation of mission, purposes, values, policies, and procedures).  
Open communication    5    4    3    2    1    Closed communication
- Organizational structure** - the college's organizational structure and administrative operation (Ex.: the hierarchical lines of authority and requirements for operating within that hierarchy).  
Highly structured    5    4    3    2    1    Loosely structured
- Political Climate** - the nature and complexity of the college's politics (Ex.: the degree to which the Director of Physical Plant must operate within a political framework in order to accomplish his/her job).  
Highly political    5    4    3    2    1    Not highly political
- Professional development opportunities** - the opportunity for the Director of Physical Plant to pursue and participate in professional development activities (Ex.: encouragement to learn, develop, and/or share innovative practices).  
Participation highly encouraged    5    4    3    2    1    Participation not encouraged
- Evaluation** - the college's procedures for evaluating the Director of Physical Plant (Ex.: fair and supportive procedures that focus on improvement rather than fault-finding).  
Supportive evaluation procedures    5    4    3    2    1    Non-supportive procedures

6. **Promotion** – the college's commitment to internal promotion and advancement from within the organization (Ex.: career ladders, internship opportunities, etc.).

Internal promotions encouraged & supported    5   4   3   2   1    Internal promotions not encouraged & supported

7. **Regard for personal concerns** – sensitivity to and regard for the personal concerns of all employees (Ex.: college is supportive and flexible during times of personal emergencies).

High sensitivity or concern    5   4   3   2   1    Low sensitivity or concern

**Section B. Please rate your level of satisfaction with each of the college's qualities listed below, with five (5) indicating the highest level of satisfaction and one (1) indicating the lowest level of satisfaction.**

8. **Internal communication** – the college's formal and informal communication processes and style (Ex.: articulation of mission, purpose, values, policies and procedures).

Open communication    5   4   3   2   1    Closed communication

9. **Organizational Structure** – the college's organizational structure and administrative operation (Ex.: the hierarchical lines of authority and requirements for operating within the hierarchy).

Highly structured    5   4   3   2   1    Loosely structured

10. **Political climate** – the nature and complexity of the college's politics (Ex.: the degree to which the Director of Physical Plant must operate within a political framework in order to accomplish his/her job).

Highly political    5   4   3   2   1    Not highly political

11. **Professional development opportunities** – the opportunity for the Director of Physical Plant to pursue and participate in professional development activities (Ex.: encouragement to learn, develop and/or share innovative practices).

Participation highly encouraged    5   4   3   2   1    Participation not encouraged

12. **Evaluation** – the college's procedures for evaluating the Director of Physical Plant (Ex.: fair and supportive procedures that focus on improvement rather than fault-finding).

Supportive evaluation procedures    5   4   3   2   1    Non-supportive procedures

13. **Promotion** – the college's commitment to internal promotion and advancement from within the organization (Ex.: career ladders, internship opportunities, etc.).

Internal promotions encouraged & supported    5   4   3   2   1    Internal promotions not encouraged & supported

14. **Regard for personal concerns** – the Director of Physical Plant's sensitivity to and regard for the personal concerns of all employees (Ex.: college is supportive and flexible during times of personal emergencies).

High sensitivity or concern    5   4   3   2   1    Low sensitivity or concern

**Section C. Please indicate how important each of the following factors is to you in your position as Director of Physical Plant, with five (5) indicating highest level of importance and one (1) indicating the lowest level of importance.**

15. **Participation in decision making** – the college's process for decision making and opportunities for involvement by instructors and others (Ex.: level of input requested for administrative decisions that involve instructional affairs).

Most important    5   4   3   2   1    Least important

16. **Power** – the degree of power held by the Director of Physical Plant within the organization (Ex.: decisions made by the Director of Physical Plant are subject to reversal by others).

Most important    5   4   3   2   1    Least important

17. **Relationship with colleagues** – the quality of the Director of Physical Plant's relationship with peers, subordinates and supervisor (Ex.: the atmosphere of mutual collegial respect exists).

a. **With peers:**

Most important    5   4   3   2   1    Least important

b. **With subordinates**

Most important    5   4   3   2   1    Least important

c. **With supervisor**

Most important    5   4   3   2   1    Least important

13. **Salary and benefits** – the salary and benefits of the Director of Physical Plant (Ex.: salary and benefits package are equitable and comparable with colleagues in similar situations).

a. **Salary:**

Most important    5   4   3   2   1    Least important

b. **Benefits**

Most important    5   4   3   2   1    Least important

13. **Professional Effectiveness** – the perceived overall effectiveness of the Director of Physical Plant in his/her position (Ex.: "Am I successful in accomplishing the objectives of my position?").

Most important    5   4   3   2   1    Least important

**Section D.**

14. Please indicate the level of your overall satisfaction with your position, with five (5) indicating the highest level of satisfaction and one (1) indicating the lowest level of satisfaction.

Most satisfied    5   4   3   2   1    Least satisfied

**Section E.**

21. Please indicate the level of your overall satisfaction with your college with five (5) indicating the highest level of satisfaction and one (1) indicating the lowest level of satisfaction.

Most satisfied    5   4   3   2   1    Least satisfied

22. Please indicate the level of your overall satisfaction in your relationship with your supervisor, with five (5) indicating the highest level of satisfaction and one (1) indicating the lowest level of satisfaction.

Most satisfied    5   4   3   2   1    Least satisfied

23. Given the significance of higher administration as they relate to climate, please indicate the level of your overall satisfaction with their willingness to cooperate and be open-minded to your ideas and suggestions, with five (5) indicating the highest level of satisfaction and one indicating the lowest level of satisfaction.

Most satisfied    5   4   3   2   1    Least satisfied

**Part II: Demographic Information**

Instructions: Please provide the following demographic information by using a check mark or filling in the blank.

A. Your current position title: \_\_\_\_\_

B. Number of years you have served as Director of Physical Plant at your current institution.

_____ Less than 1 year	_____ 11 – 14 years
_____ 1 – 5 years	_____ 15 years or more
_____ 6 – 10 years	

C. Ethnic group:

_____ Asian American	_____ White/Caucasian
_____ Black/African American	_____ Native American
_____ Hispanic	_____ Other: (please specify) _____

D. Gender

\_\_\_\_\_ Female \_\_\_\_\_ Male

E. Number of students at your institution

_____ 0 – 999	_____ 3,000 – 3,999	_____ 12,000 – 19,999
_____ 1,000 – 1,999	_____ 4,000 – 4,999	_____ 20,000 and over
_____ 2,000 – 2,999	_____ 5,000 – 11,999	

F. Type of Institution

\_\_\_\_\_ public \_\_\_\_\_ private

G. Name of Institution (optional)

\_\_\_\_\_

H. Please use this space to make any comments or observations relating to the issues raised in this survey:

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Thank you.

SUBMIT



APPENDIX B  
COVER LETTER FOR QUESTIONNAIRE

Dear APPA member,

In my role as APPA's Executive Vice President, I continue to be impressed with the level of participation in our association. This involvement makes us stronger because it provides valuable feedback and insight about needs and issues that impact our profession. Certainly, one of the matters that ought to concern us is our own level of satisfaction on the job and how it affects our organizations. We need to know as much as possible about this relationship because it is part of the body of knowledge necessary to effectively manage facilities.

It is essential in today's fast-paced, rapidly changing world that we understand as much as we can about leadership, our impact on organizations, and their impact on us. For this reason, the theme of this questionnaire is certainly in alignment with our association's overarching purpose to gather and disseminate information that can help us improve our performance as managers of facilities.

The information gathered from Fred Gratto's questionnaire (see his letter following mine) is likely to be very beneficial to our understanding of leadership. Therefore, I hope that you will take a few moments to complete it and respond to Fred by Tuesday, July 10, 2001. Thank you for your time and support of this worthy research project.

Sincerely,

E. Lander Medlin  
Executive Vice President

Dear Colleague,

I have served as Assistant Director of Physical Plant at the University of Florida since 1985. Because of my work on campus and involvement with APPA, I became very interested in the impact of leadership on facilities organizations. I decided to pursue a doctoral degree and investigate the relationship between organizational climate and job satisfaction for Directors of Physical Plants. To do this effectively, your help is needed.

Please respond to the questionnaire by simply clicking on the following link:  
**<http://admn.santafe.cc.fl.us/~bgordon/survey/questions.htm>**

It inquires about the organizational climate on your campus and your level of job satisfaction. It can be completed in approximately ten minutes. There are no right or wrong answers and you do not have to answer any question you do not want to answer. Respondents are guaranteed anonymity because no reference to any school or individual will be made in the data analysis.

Please provide your response to each question and click on <Submit> at the end of the form when you have completed the questionnaire. Please complete by **July 10, 2001**. For the purposes of this research, a response to this questionnaire will be considered your consent to participate in the study.

In addition to the information provided above, the University of Florida Institutional Review Board policy requires the researcher to provide participants with the following information: This project does not involve any immediate or foreseen (a) benefits, (b) risks, or (c) compensation.

Questions or concerns about research participants' rights can be directed to the UFIRB office, PO Box 112250/ 98A Psychology Building, University of Florida, Gainesville, FL 32611-2250. Research participants are free to withdraw consent and discontinue participation in the project at any time without consequence.

If you would like to receive a copy of the findings of this study, please indicate this in your return email and I'll be happy to provide it. Thank you in advance for your help and participation.

**<http://admn.santafe.cc.fl.us/~bgordon/survey/questions.htm>**

Sincerely,  
Frederic Gratto  
[fgratto@ufl.edu](mailto:fgratto@ufl.edu)  
352-392-1148

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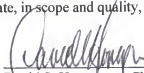
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## BIOGRAPHICAL SKETCH

Frederic Gratto grew up near Lake Placid, New York, in the Adirondack Mountains. He received a B. A. degree in psychology from the State University of New York at Plattsburgh. He also earned a M.Ed. Degree in parks and recreation from the University of Georgia and an M.A. in urban and regional planning from the University of Florida.

He started his career in facilities management at the State University of New York at Delhi and moved on to a position as Superintendent of Parks in Muscatine, Iowa. His next job was at the University of Florida. After working sixteen years in Physical Plant, his interest in leadership led to the pursuit of a doctoral degree. His future plans include either college teaching or other administrative positions in facilities management.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



David S. Honeyman, Chair  
Professor of Educational Leadership,  
Policy, and Foundations

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



C. Arthur Sandeen  
Professor of Educational Leadership,  
Policy and Foundations

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Dale F. Campbell  
Professor of Educational Leadership,  
Policy, and Foundations

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



Stephen C. Anderson  
Professor of Recreation, Parks, and Tourism

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.



Dean, College of Education

Dean, Graduate School